TC-WR87ES/WR775

SERVICE MANUAL

US Model
Canadian Model
TC-WR775
US Model
TC-WR87ES

Photo: TC-WR87ES

Model Name Using Similar Mechanism	TC-WR775	TC-WR720/WR720A
	TC-WR87ES	TC-WR80ES/WR820A

Tape Transport Mechanism Type			
	TC-WR775	DECK A, B	TCM-190RB12
	TC-WR87ES	DECK A, B	TCM-190RB31

SPECIFICATIONS

Recording system 4-track 2-channel stereo
Fast winding time Approx. 90 sec. (with Sony C-60 cassette)
Bias AC bias
Signal-to-noise ratio (at peak level)

Dolby NR switch / Cassette	OFF	B-Type ON	C-Type ON
Type IV (Sony METAL-SLT)	58 dB (WR775) 59 dB (WR87ES)	66 dB (WR775) 67 dB (WR87ES)	73 dB (WR775) 74 dB (WR87ES)
Type II (Sony UX-S)	57 dB (WR775) 58 dB (WR87ES)	65 dB (WR775) 66 dB (WR87ES)	72 dB (WR775) 73 dB (WR87ES)
Type I (Sony HF-S)	55 dB (WR775) 56 dB (WR87ES)	63 dB (WR775) 64 dB (WR87ES)	70 dB (WR775) 71 dB (WR87ES)

Total harmonic distortion 1.0% (with Sony METAL-SLT cassettes)

Frequency response (DOLBY NR OFF)

Type IV cassette (Sony METAL-SLT)	30 - 18,000 Hz (±3 dB, IEC) 30 - 15,000 Hz [±3 dB 0VU(-4 dB)recording]
Type II cassette (Sony UX-S)	30 - 17,000 Hz (±3 dB, IEC)
Type I cassette (Sony HF-S)	30 - 15,000 Hz (±3 dB, IEC)

Wow and flutter ±0.13% W.Peak (IEC)
0.07% WRMS (NAB)
±0.18% W.Peak (DIN)

Inputs

Line inputs (phono jacks)	Sensitivity	77.5 mV
	Input impedance	47 k ohms

Outputs

Line outputs (phono jacks)	Rated output level	0.32 V at a load impedance of 47 k ohms
	Load impedance	Over 10 k ohms
Headphones (stereo phone jack)	Output level	0.2 mW at a load impedance of 32 ohms (WR775) 0–1.25 mW at a load impedance of 32 ohms (WR87ES)

General

Power requirements 120 V AC, 60 Hz
Power consumption 30 W
Dimensions Approx. 430 × 135 × 300 mm (w/h/d) (17 × 5⅜ × 11⅞ inches) including projecting parts and controls
Weight Approx. 4.9 kg (10 lbs 13 oz) (WR775)
Approx. 5.3 kg (11 lbs 11 oz) (WR87ES)

Supplied accessory Audio connecting cords (2)

Design and specifications subject to change without notice.

WR775 : TC-WR775
WR87ES : TC-WR87ES

* Dolby noise reduction and HX Pro headroom extension manufactured under license from Dolby Laboratories Licensing Corporation. HX Pro originated by Bang & Olufsen.

"DOLBY", the double-D symbol ⧈ and "HX PRO" are trademarks of Dolby Laboratories Licensing Corporation.

使用時は添付資料も参照のこと
Refer to the additional documents.

STEREO CASSETTE DECK

SONY®

TABLE OF CONTENTS

FEATURES

- The Dolby HX PRO* system which improves the linearity of a tape's high-range response during recording.
- A relay function for long recording and playback.
- Automatic tape type detection during playback and recording.
- Auto-synchro dubbing at normal or high (double) speed.
- AMS and memory play functions which provide easy access to desired selections.
- An easy-to-read digital counter which shows the elapsed recording or playback time for decks A and B.

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!

LES COMPOSANTS IDENTIFIÉS PAR UNE MARQUE ⚠ SUR LES DIAGRAMMES SCHÉMATIQUES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÈCES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPLÉMENTS PUBLIÉS PAR SONY.

SAFETY CHECK-OUT

After correcting the original service problem, perform the following safety check before releasing the set to the customer:
Check the antenna terminals, metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC leakage. Check leakage as described below.

LEAKAGE TEST

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5 mA (500 microampers). Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instruments.
2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.
3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 0.75 V, so analog meters must have an accurate low-voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOM that is suitable. Nearly all battery operated digital multimeters that have a 2V AC range are suitable. (See Fig. A)

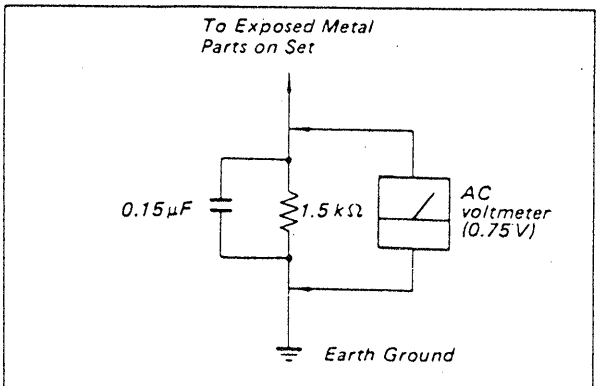
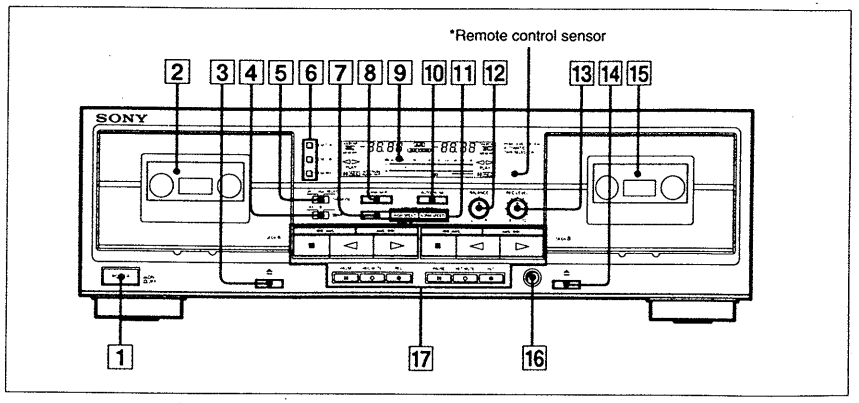


Fig. A. Using an AC voltmeter to check AC leakage.

Identification of Front Panel Parts

TC-WR775



For details, refer to the page number indicated in ●

1 **POWER switch**

2 **Deck A**

3 **⏏ (eject) button (deck A)**

4 **DD NR (Dolby noise reduction) switch** ❼ ⓬ ⓯ ⓰

5 **DIR (direction) MODE switch** ❼ ❽ ⓬ ⓯ ⓰ ⓱

6 **COUNTER buttons** ⓫
RESET A button (deck A)
RESET B button (deck B)
MEMORY button (for decks A and B)

7 **A+B REC (simultaneous recording) button** ⓯

8 **BLANK SKIP button** ❾

9 **Display panel**

10 **AUTO PAUSE button** ⓲

11 **SYNCHRO DUBBING buttons** ⓱
HIGH SPEED button
NORM (normal) SPEED button

12 **BALANCE control** ⓬

13 **REC (recording) LEVEL control** ⓬ ⓯

14 **⏏ (eject) button (deck B)**

15 **Deck B**

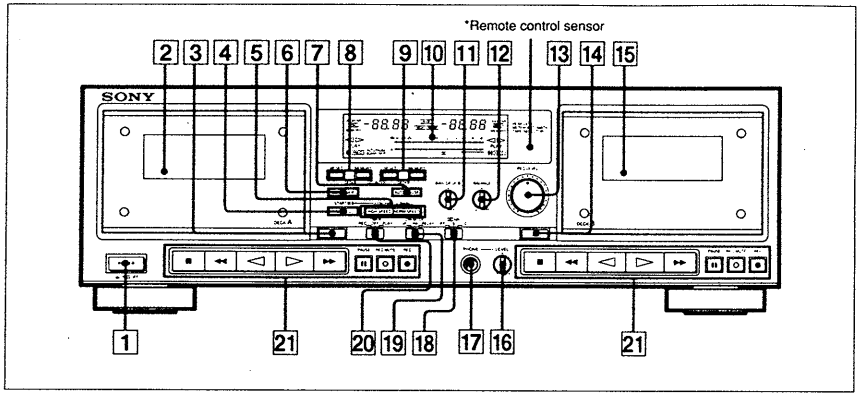
16 **PHONES (headphones) jack (stereo phone jack)**

17 **Tape operation buttons**
■ (stop) button
◀◀ (leftward fast winding) (AMS**) button
◀ (reverse play) button
▶ (forward play) button
▶▶ (rightward fast winding) (AMS**) button
II PAUSE button
O REC MUTE (record muting) button ⓯
● REC (recording) button

***Remote control sensor**
You can remotely control this cassette deck with:
— A remote commander that came with a Sony amplifier or receiver if it has the RM mark and cassette deck control capability.
— Any optional Sony remote commander with the RM mark and cassette deck control capability.

****AMS is an abbreviation for Automatic Music Sensor.**

TC-WR87ES



For details, refer to the page number indicated in ●

1 **POWER switch**

2 **Deck A**

3 **⏏ (eject) button (deck A)**

4 **A+B REC (simultaneous recording) button** ⓯

5 **SYNCHRO DUBBING buttons** ⓱
HIGH SPEED button
NORM (normal) SPEED button

6 **BLANK SKIP button** ❾

7 **AUTO PAUSE button** ⓲

8 **COUNTER buttons (deck A)** ⓫
RESET button
MEMORY button

9 **COUNTER buttons (deck B)** ⓫
RESET button
MEMORY button

10 **Display panel**

11 **BIAS control (deck B)** ⓭

12 **BALANCE control** ⓬

13 **REC (recording) LEVEL control** ⓬ ⓯

14 **⏏ (eject) button (deck B)**

15 **Deck B**

16 **Headphones LEVEL control** ❼

17 **PHONES (headphones) jack (stereo phone jack)** ❼

18 **DD NR (Dolby noise reduction) switch** ❼ ⓬ ⓯ ⓰

19 **DIR (direction) MODE switch** ❼ ❽ ⓬ ⓯ ⓰ ⓱

20 **TIMER switch** ❼ ⓭

21 **Tape operation buttons**
■ (stop) button
◀◀ (leftward fast winding) (AMS**) button
◀ (reverse play) button
▶ (forward play) button
▶▶ (rightward fast winding) (AMS**) button
II PAUSE button
O REC MUTE (record muting) button ⓯
● REC (recording) button

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—Any optional Sony remote commander with the RM mark and cassette deck control capability.

****AMS is an abbreviation for Automatic Music Sensor.**

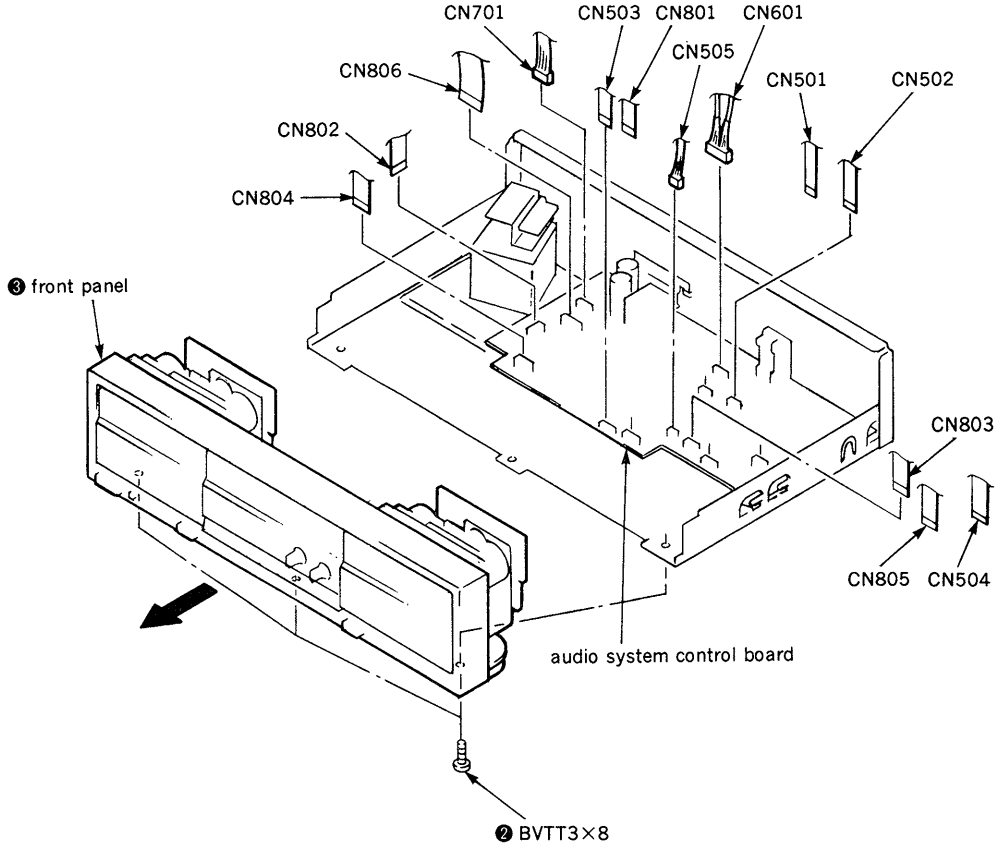
This section is extracted from instruction manual.

SECTION 2
DISASSEMBLY

Note: Follow the disassembly procedure in the numerical order given.

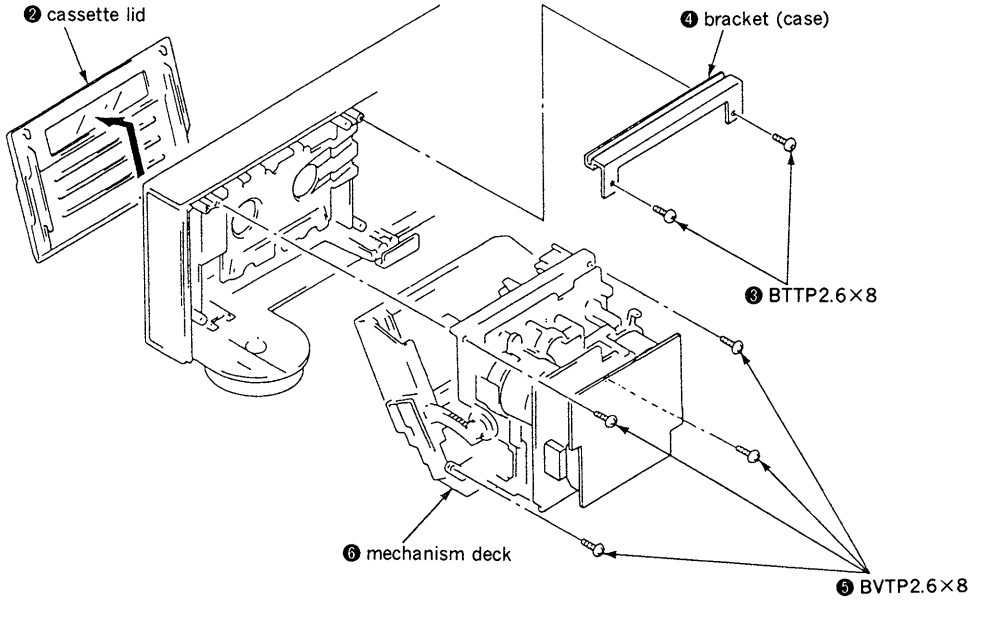
2-1. FRONT PANEL (TC-WR775)

❶ Remove the connector from audio system control board.



2-2. MECHANISM DECK (TC-WR775)

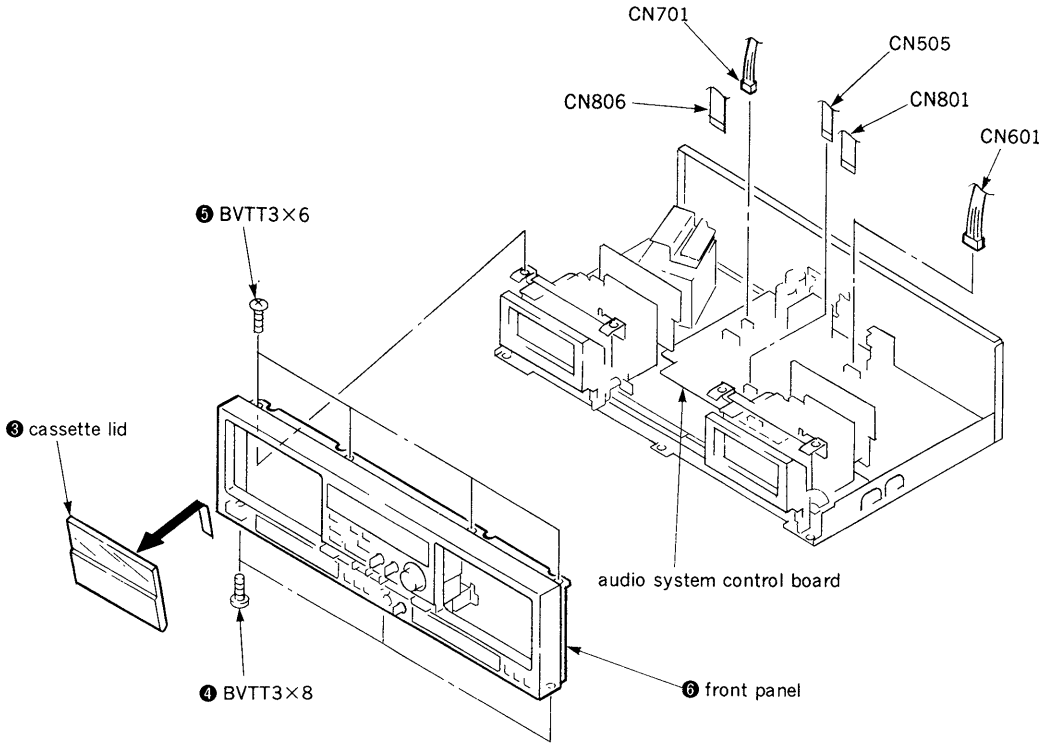
❶ Push the EJECT button.



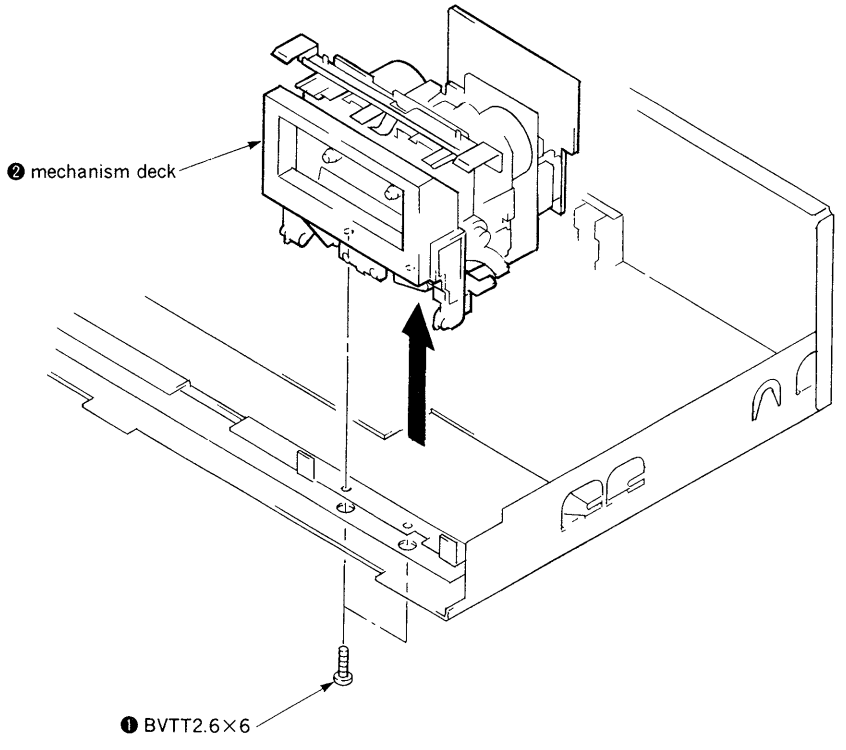
2-3. FRONT PANEL (TC-WR87ES)

❶ Remove the connector
from audio system control board.

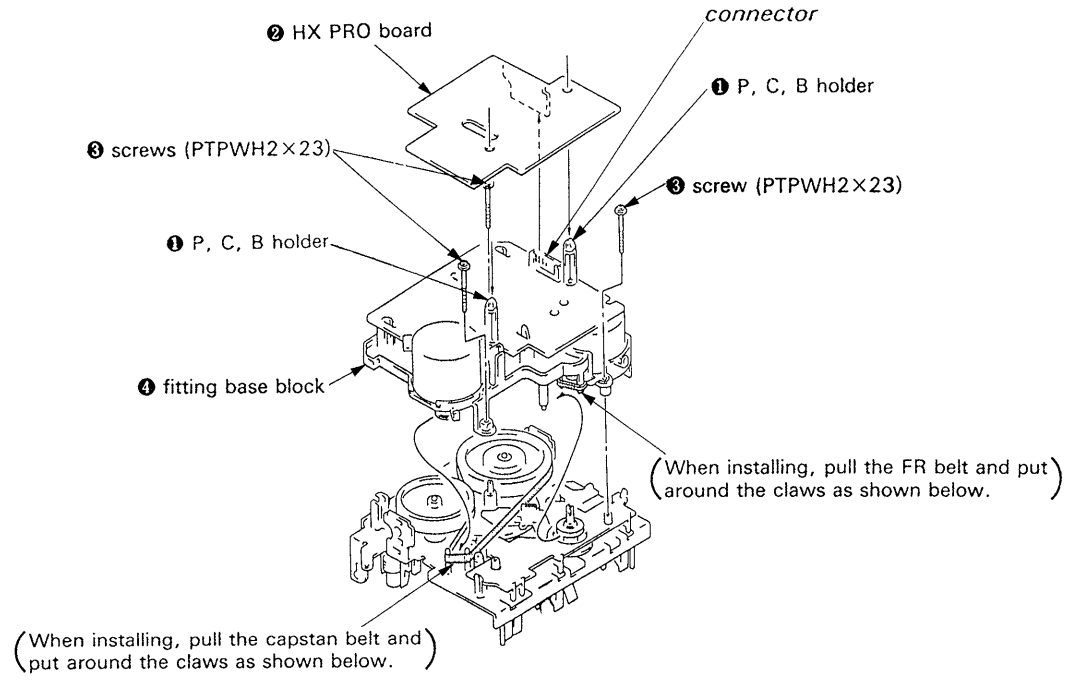
❷ Push the EJECT button.



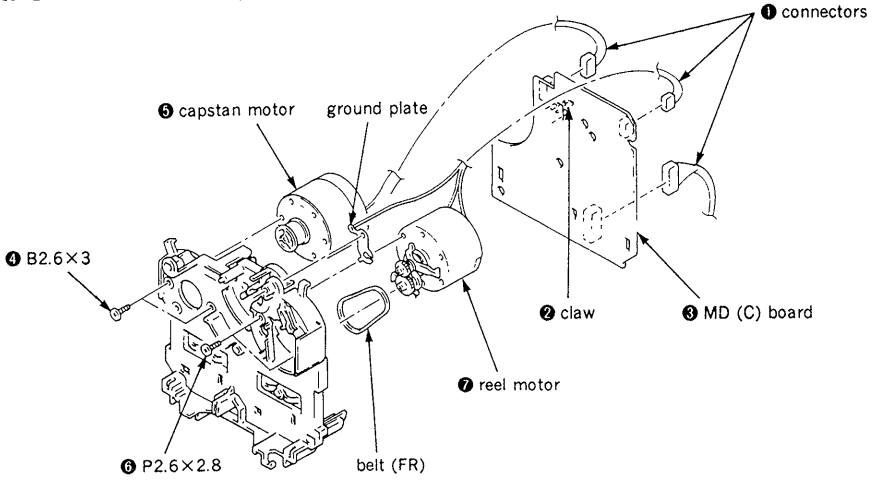
2-4. MECHANISM DECK (TC-WR87ES)



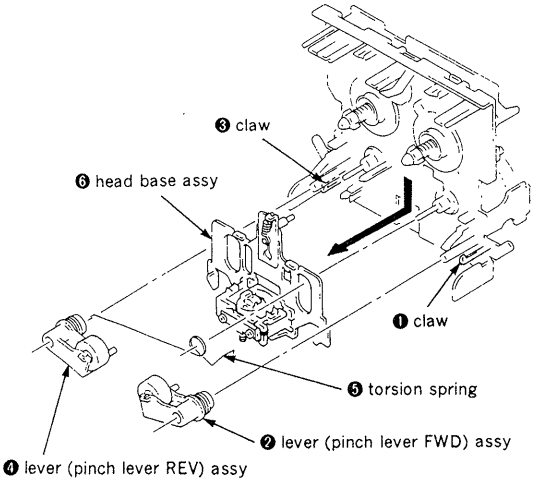
2-5. CAPSTAN MOTOR, REEL MOTOR (1)



2-6. CAPSTAN MOTOR, REEL MOTOR (2)



2-7. HEAD, PINCH ROLLER



SECTION 3
MECHANICAL ADJUSTMENTS

PRECAUTION

1. Clean the following parts with a denatured alcohol-moistened swab:
   record/playback/erase head pinch roller
   rubber belts capstan
   idlers
2. Demagnetize the record/playback head with a head demagnetizer.
   (Head demagnetizer do not approach for the erase head.)
3. Do not use a magnetized screwdriver for the adjustment.
4. After the adjustments, apply suitable locking compound to the parts adjusted.
5. The adjustments should be perfomed with the rated power supply voltage unless otherwise noted.

Torque Measurement

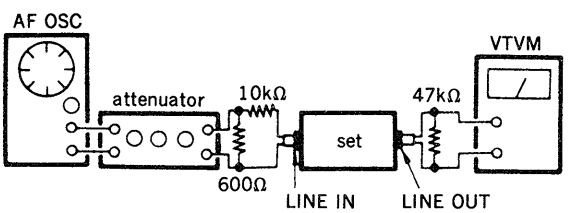
Torque	Torque meter	Meter reading
Forward	CQ-102C	30 to 65g•cm (0.42 to 0.90 oz•inch)
Forward back tension	CQ-102C	1 to 6g•cm (0.014 to 0.08 oz•inch)
Reverse	CQ-102RC	30 to 65g•cm (0.42 to 0.90 oz•inch)
Reverse back tension	CQ-102RC	1 to 6g•cm (0.014 to 0.08 oz•inch)
Forward, Reverse	CQ-201B	70 to 120g•cm (0.98 to 1.67 oz•inch)

SECTION 4
ELECTRICAL ADJUSTMENTS

PRECAUTION

1. The adjustment should be performed in the publication. (Be sure to make playback adjustment at first.)
2. The adjustment and measurement should be performed for both L-CH and R-CH.
   - Switch position
     DOLBY NR switch : OFF
     DIR MODE switch : ⇄
   - Standard record position
     Deliver the standard input signal level to input jack and set the REC LEVEL control to obtain the standard output signal level as follows.

—Record Mode—



Standard Input Level

Input terminal	LINE IN
source impedance	10kΩ
input signal level	0.25V (−10dB)

Standard Output Level

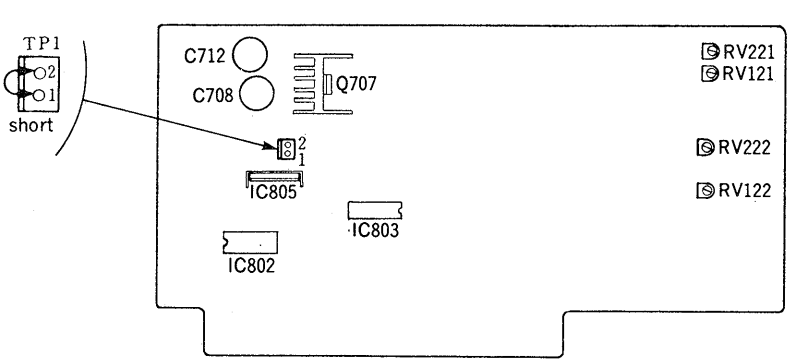
Output terminal	LINE OUT
load impedance	47kΩ
output signal level	0.44V (−5dB)

Test Tape

Tape	Contents	Use
P-4-A100	10kHz, −10dB	Azimuth Adjustment
P-4-L300	315Hz, 0dB	Level Adjustment
WS-48B	3kHz, 0dB	Tape Speed Adjustment

3. When to electrical adjustments, short the connector TP1 (test mode).

audio system control board —component side—

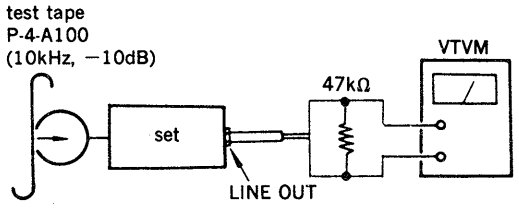


Record/Playback/Erase Head Azimuth Adjustment

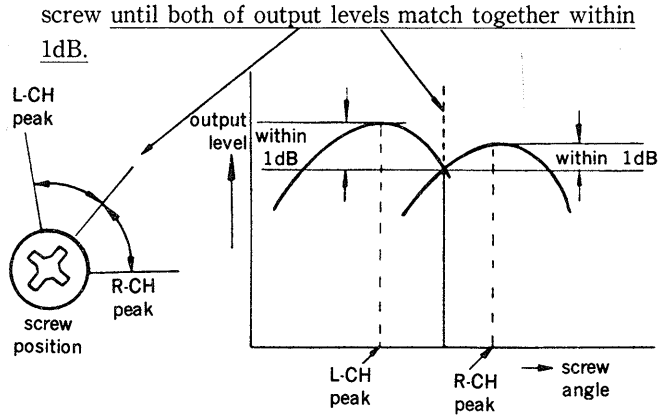
DECK A DECK B

Procedure :

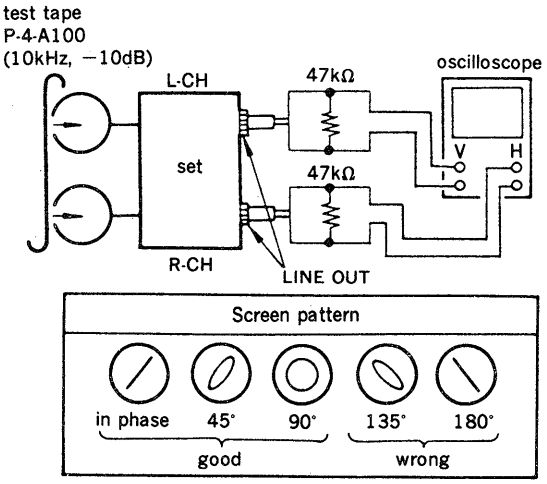
1. Reverse Playback Mode



2. Turn the adjustment screw for the maximum output levels. If these levels do notmatch, turn the adjustment screw until both of output levels match together within 1dB.

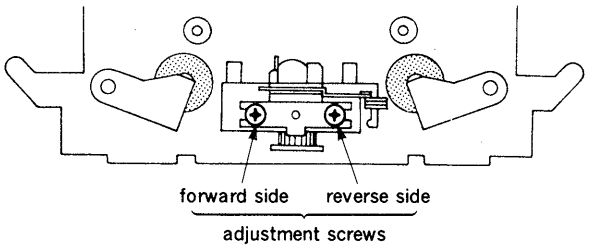


3. Playback Mode



4. Change the forward playback mode and repeat the steps 1 to 3.
5. After the adjustment, lock the adjustment screws with suitable locking compound.

Adjustment Location : — record/playback/erase head —

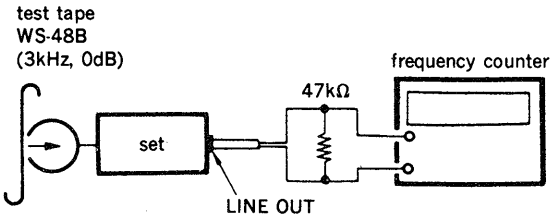


Tape Speed Adjustment DECK A DECK B

Perform high speed adjustment before normal speed adjustment.

Procedure :

—Forward Playback Mode—



(high speed adjustment)

1. Keep on pressing the SYNCHRO DUBBING HIGH SPEED switch.
2. Confirm that the frequency counter reading becomes within adjustment limits of 6,000±60Hz on both of deck A and deck B.
3. If the adjustment limits are not satisfied, adjust each RV72 so that the frequency counter reading becomes within adjustment limits of 6,000±30Hz on both of deck A and deck B.
4. Change the reverse playback mode and repeat the steps 1 to 3.

(normal speed adjustment)

5. Keep on pressing the SYNCHRO DUBBING NORM SPEED switch.
6. Confirm that the frequency counter reading becomes within adjustment limits of 3,000±30Hz on both of deck A and deck B.
7. If the adjustment limits are not satisfied, adjust each RV71 so that the frequency counter reading becomes within adjustment limits of 3,000±15Hz on both of deck A and deck B.
8. Change the reverse playback mode and repeat the steps 5 to 7.

Frequency difference between the beginning and the end of the tape should be within 3%.
Frequency difference between deck A and deck B the beginning of the tape should be within 1.5%.

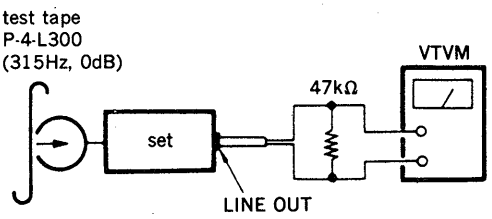
Adjustment Location : MD (C) board (deck A, deck B)

(See page 10)

Playback Level Adjustment DECK A DECK B

Procedure:

—Forward Playback Mode—



Adjust each RV11 (L-CH) and RV21 (R-CH) so that the VTVM reading becomes within adjustment limits below on both of deck A and deck B.

Adjustment Limits:

LINE OUT level: −15±0.5dB (0.130 to 0.146V)

Level difference between channels: within 0.5dB

Confirm the LINE OUT level does not change in playback mode while changing the mode from playback to stop several times.

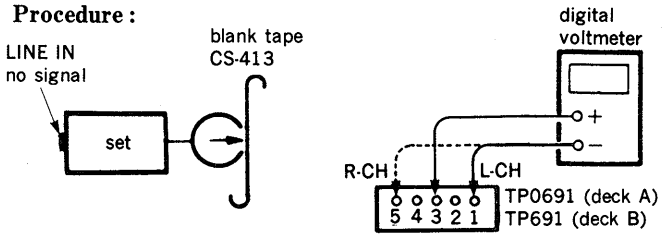
Adjustment Location: MD(C) board (deck A, deck B)
(See page 10)

Bias Consumption Current Adjustment

DECK A DECK B

This adjustment should be perfomed when replacing the head assy or step-up transformer (T0391, 0491 (deck A) and T391, 491 (deck B)), or DOLBY HX-PRO IC (IC0691 (deck A) and IC691 (deck B)).

Procedure:



(deck A)

1. Connect the digital voltmeter to test point TP0691.
2. Set RV0391 (L-CH) and RV0491 (R-CH) to mechanical center.
3. Set to forward record mode.
4. Adjust T0391 (L-CH) and T0491 (R-CH) so that the digital voltmeter reading becomes minimum.

(deck B)

5. Similarly, connect the digital voltmeter to test point TP691.
6. Set RV391 (L-CH) and RV491 (R-CH) to mechanical center.
7. Set to forward record mode.
8. Adjust T391 (L-CH) and T491 (R-CH) so that the digital voltmeter reading becomes minimum.

Adjustment Location: HX-PRO board (A) (deck A),
HX-PRO board (B) (deck B)
(See page 10)

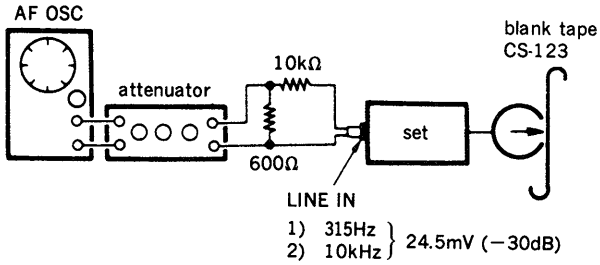
Record Bias Adjustment DECK A DECK B

Setting:

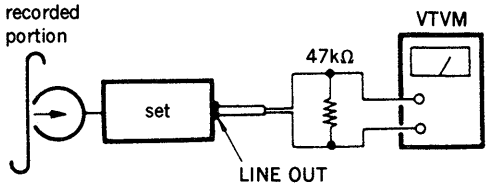
REC LEVEL control: standard record position (Refer to page 7.)

Procedure:

1. Record Mode



2. Playback Mode



(deck A)

3. Playback the signal recorded in step 1, and confirm that the 10kHz playback output level is VTVM reading becomes within adjustment limits below relative to the 315Hz output.
4. If the adjustment limits are not satisfied, adjust each RV0391 (L-CH) and RV0491 (R-CH) so that the VTVM reading becomes within adjustment limits on next page.

(deck B)

5. Similarly, playback the signal recorded in step 1, and confirm that the 10kHz playback output level is VTVM reading becomes within adjustment limits below relative to the 315Hz output.
6. If the adjustment limits are not satisfied, adjust each RV391 (L-CH) and RV491 (R-CH) so that the VTVM reading becomes within adjustment limits on next page.

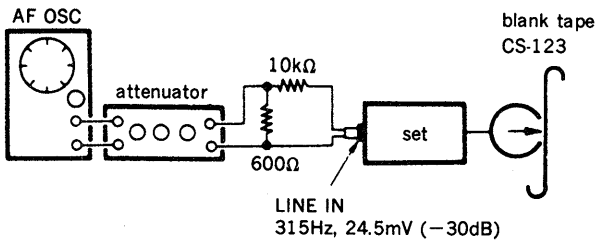
Adjustment Limits :
10kHz playback output
relative to the 315Hz output : 0±0.5dB

Adjustment Location : HX-PRO board(A)(deck A)
HX-PRO board(B)(deck B)

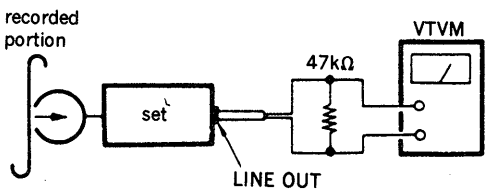
Record Level Adjustment DECK A DECK B

Setting :
REC LEVEL control : standard record position (Refer to page 7.)

Procedure :
1. Record Mode



2. Playback Mode



(deck A)
3. Playback the signal recorded in step 1, and confirm that the 10kHz playback output level is VTVM reading becomes within adjustment limits below relative to the 315Hz output.
4. If the adjustment limits are not satisfied, adjust each RV121 (L-CH) and RV221 (R-CH) so that the VTVM reading becomes within adjustment limits below.

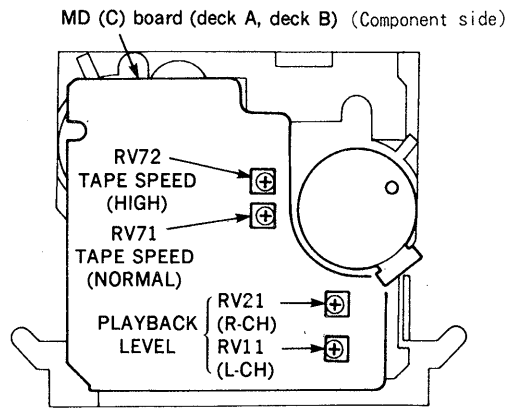
(deck B)
5. Similarly, playback the signal recorded in step 1, and confirm that the 10kHz playback output level is VTVM reading becomes within adjustment limits below relative to the 315Hz output.
6. If the adjustment limits are not satisfied, adjust each RV122 (L-CH) and RV222 (R-CH) so that the VTVM reading becomes within adjustment limits below.

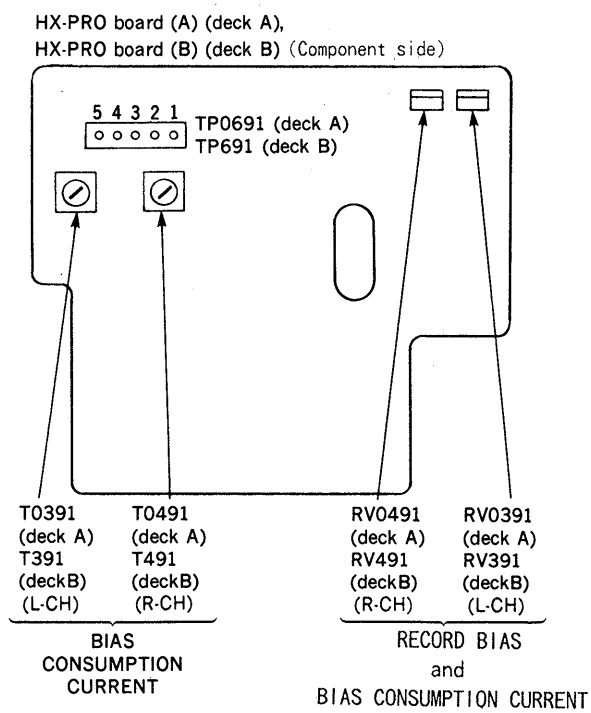
Adjustment Limits :
315Hz playback output level : −25±0.5dB (42 to 46mV)

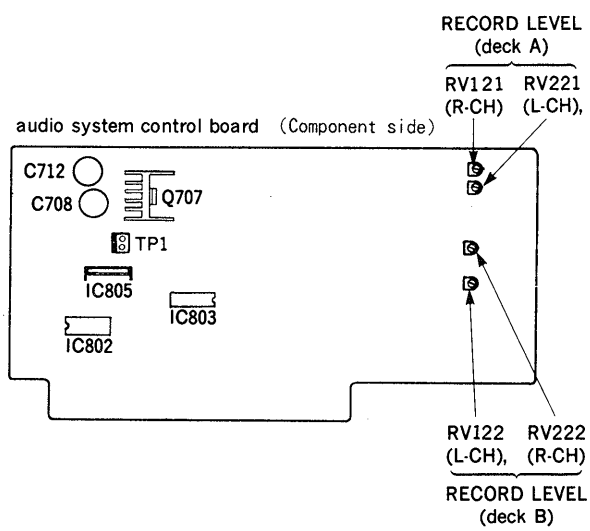
Adjustment Location : audio system control board

Note : After adjustment, open the connector TP1.

—Adjustment Parts Location Diagrams—



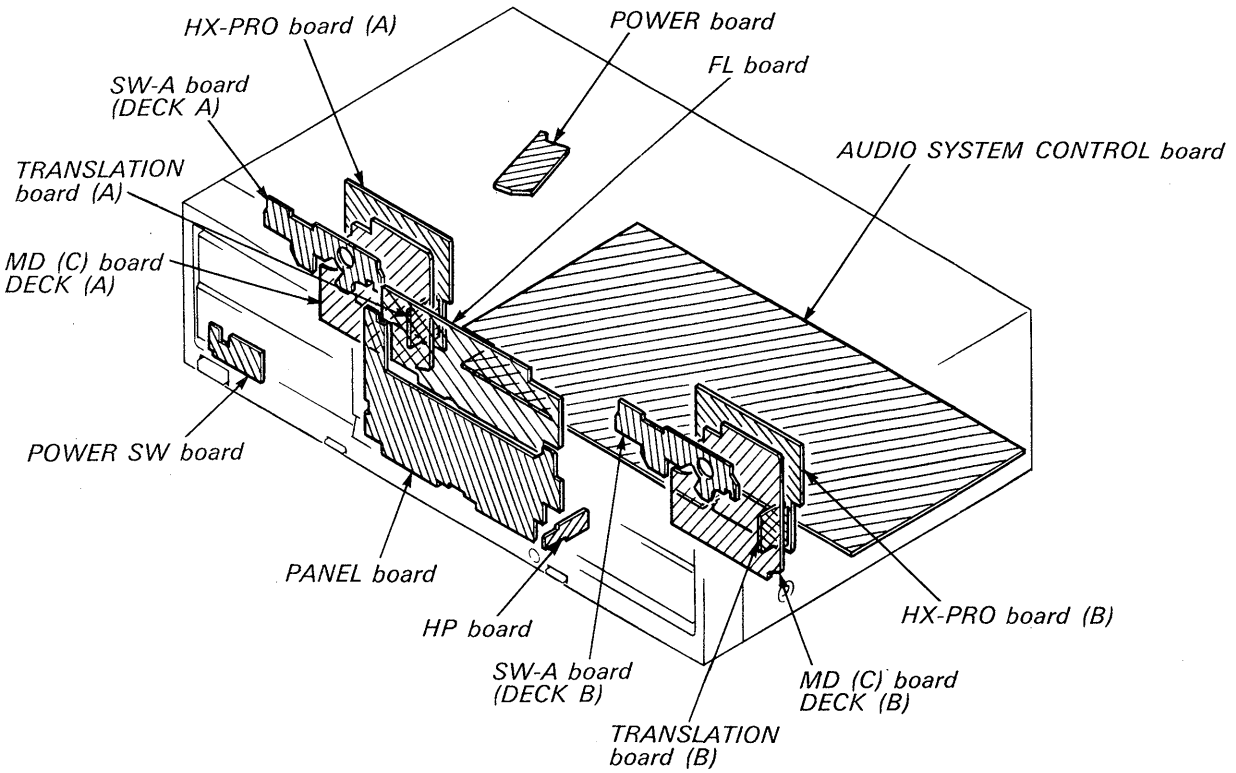




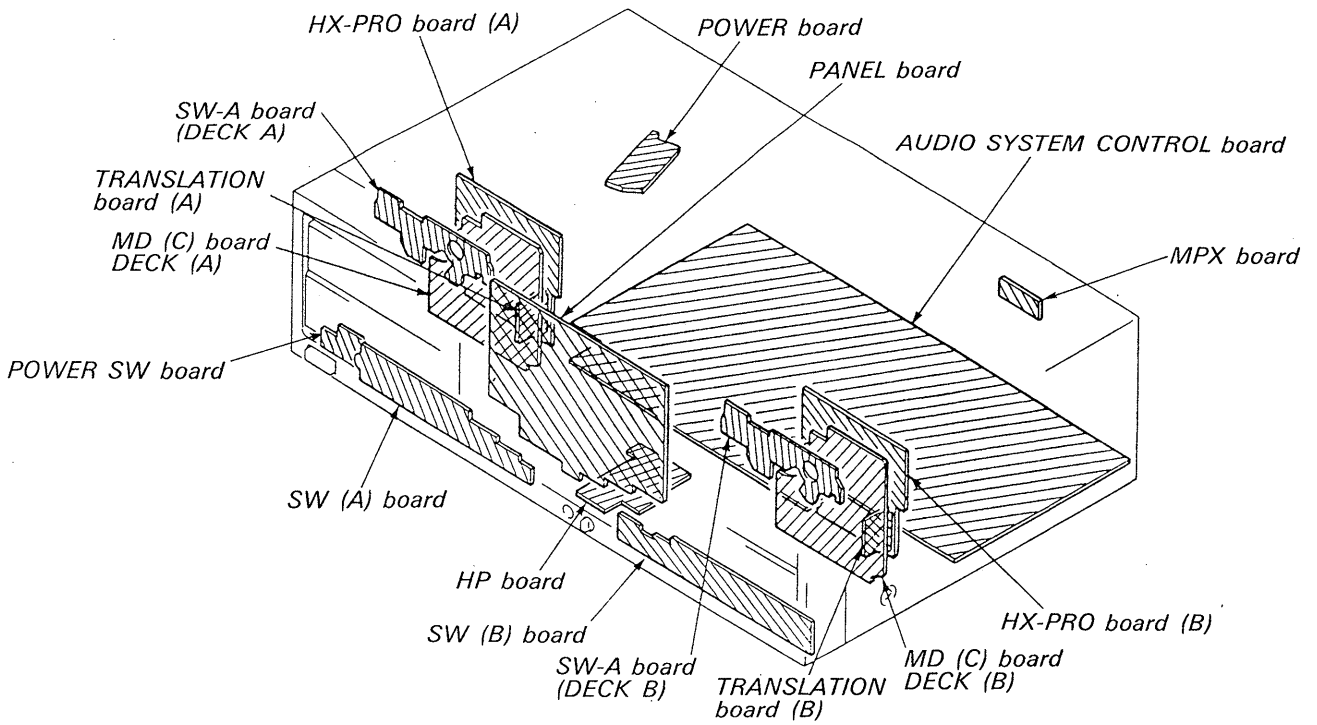
SECTION 5
DIAGRAMS

5-1. CIRCUIT BOARDS LOCATION

(TC-WR775)



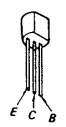
(TC-WR87ES)



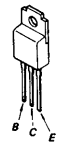
5-2. SEMICONDUCTOR LEAD LAYOUTS

DTA114ES
DTA144ES
DTC114ES
DTC143TS
DTC144ES
DTC144WS
2SC2603-EF
2SD1012-FG

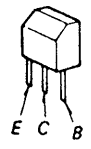
2SA1317-S
2SA1317-STU
2SB1013-3



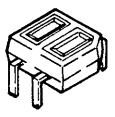
2SB1370-EF



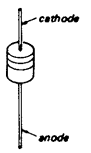
2SD1312-K



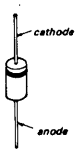
NJL5165K-B



HZS6A1L
HZS7A1L
HZS9A2L
UZL-11L2
UZL-7H1
1SS120



10E2N



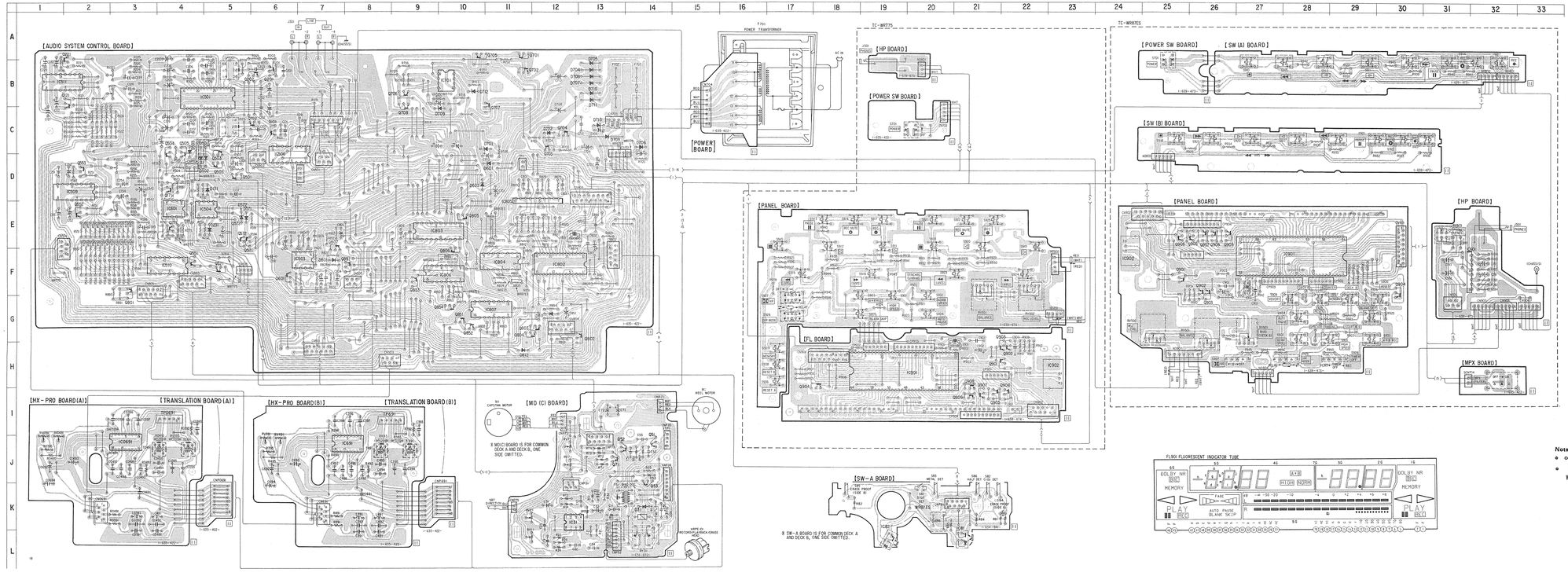
5-3. PRINTED WIRING BOARDS — Main Section —

● See page 11 for Circuit boards location and Semiconductor Lead Layouts.

● Semiconductor Location

Ref. No.	Location	Ref. No.	Location
D31	K-14	Q121	B-2
D131	D-5	Q171	D-4
D231	E-5	Q201	B-6
D501(※1)	D-4	Q202	B-6
D502	D-5	Q221	B-2
D503	C-4	Q271	E-4
D571	E-5	Q501	D-5
D572	E-5	Q502	D-5
D601	D-11	Q503	D-5
D602	D-10	Q504	C-4
D701	C-11	Q505	C-4
D702	C-12	Q521	F-5
D703	C-13	Q551	F-4
D704	B-13	Q552	E-2
D705	B-13	Q553	D-2
D706	C-14	Q571	E-5
D707	B-13	Q572	E-5
D708	B-13	Q601	F-6
D709	C-10	Q701	A-11
D710	B-13	Q702	B-11
D711	B-13	Q703	C-12
D712	B-10	Q704	C-12
D713	C-13	Q705	A-10
D801	F-7	Q706	B-9
D811	G-12	Q707	B-11
D812	H-11	Q708	B-9
		Q801	F-3
IC31	K-12	Q802	G-13
IC81	L-21	Q803	G-12
IC82(※2)	L-19	Q804	G-12
IC501	B-5	Q805	E-10
IC503	F-7	Q806	F-10
IC504	E-5	Q807	F-7
IC506	D-6	Q851	G-10
IC509	D-2	Q852	G-10
IC510	F-4	Q853	F-9
IC511	B-1	Q854	G-10
IC601(※1)	E-4	Q891	F-8
IC601(※2)	F-32	Q901(※1)	H-21
IC691	J-8	Q901(※2)	F-25
IC701	B-10	Q902(※1)	H-22
IC802	F-12	Q902(※2)	F-26
IC803	E-9	Q903(※1)	H-22
IC804	F-11	Q903(※2)	F-26
IC805	D-12	Q904(※1)	H-18
IC806	F-10	Q904(※2)	F-30・
IC807	G-11	Q905(※1)	I-21
IC901(※1)	H-19	Q905(※2)	E-26
IC901(※2)	F-28	Q906(※2)	E-25
IC902(※1)	H-23	Q907(※1)	I-21
IC902(※2)	F-24	Q907(※2)	E-26
IC0691	J-3	Q908(※1)	H-21
		Q908(※2)	E-26
Q51	J-14	Q909(※1)	I-21
Q52	J-13	Q909(※2)	E-26
Q53	K-14		
Q71	J-13		
Q101	C-6		
Q102	C-6		

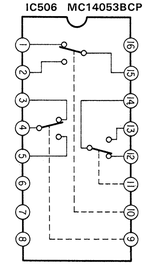
※1 : Used on TC-WR775 only.
※2 : Used on TC-WR87ES only.



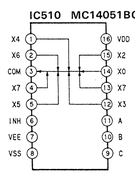
Note:
● ○——— : parts extracted from the component side.
● WR775 : TC-WR775
WR87ES : TC-WR87ES

• IC Block Diagrams

IC506 MC14053BCP



IC510 MC14051BCP



Note:
- All capacitors are in μF unless otherwise noted. pF: μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- △ : internal component.
- ⎓ : fusible resistor.

Note:	Note:
The components identified by mark △ or dotted line with mark △ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque △ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

- B+ : B+ Line
- B− : B− Line
- ▭ : adjustment for repair.
- Voltage is dc with respect to ground under no-signal (detuned) conditions.
- no mark : POWER ON
- ▶ : FWD ◀ : REV ▶▶ : FF ◀◀ : REW ● : REC
- Voltages are taken with a VOM (Input Impedance 10MΩ). Voltage variations may be noted due to normal production tolerances.
- Signal path.
  - ▷ : PB (DECK A)
  - ▷▷ : REC (DECK A)
  - ▷ : PB (DECK B)
  - ▷▷ : REC (DECK B)
- WR775 : TC-WR775
  WR87ES : TC-WR87ES

TC-WR775

FL901 FLUORESCENT INDICATOR TUBE

【FL BOARD】

Q905-909 SWITCH

IC901 FL DRIVE

IC902 REMOTE SENSOR

【PANEL BOARD(1/2)】

CP903 10KX8

CP901 10KX4

CP902 10KX4

* SW-A BOARD IS FOR COMMON DECK A AND B, ONE SIDE OMITTED.

【SW-A BOARD】

IC81 IC82 SHUT OFF DET

WR87ES

CN781

IC804 MECHANISM MICROCOMPUTER

	FF	TRIG	STOP	FWD
REEL	L	H	L	L
TRIG	H	L	L	H
FWD	H	H	L	L

POWER OP OUT

TRIG.	+6V
FF REW	-5.5V
FWD	-5.8V

TO AUDIO SYSTEM CONTROL BOARD (1/2) AUDIO / POWER SECTION (See page 21)

【AUDIO SYSTEM CONTROL BOARD(1/2)】

CN801 CN802 CN803 CN804 CN805

IC804 WAVE SHAPE

IC802 MECHANISM CONTROL

IC803 INPUT SELECT

IC805 MOTOR AMP

IC806 REC EQ SWITCH

IC807 REC EQ SWITCH

Q801 CAPSTAN (B) CONTROL

Q802 CAPSTAN (A) CONTROL

Q803,804 NORMAL / HIGH SPEED SELECT

IC806,807 M14052

	A	B	ON
0	L	L	2X0 X0
1	H	L	2X1 X1
X	L	H	2X2 X2
2	H	H	2X3 X3

* MD(C) BOARD IS FOR COMMON DECK A AND DECK B, ONE SIDE OMITTED.

【MD(C) BOARD (1/2)】

Q71 MOTOR SPEED CONTROL

SB7 DIRECTION

OFF : FWD ON: REV

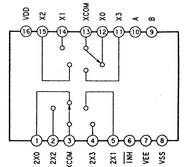
CAPSTAN MOTOR

REEL MOTOR

TO MD(C) BOARD (1/2) (See page 20)

• IC Block Diagram

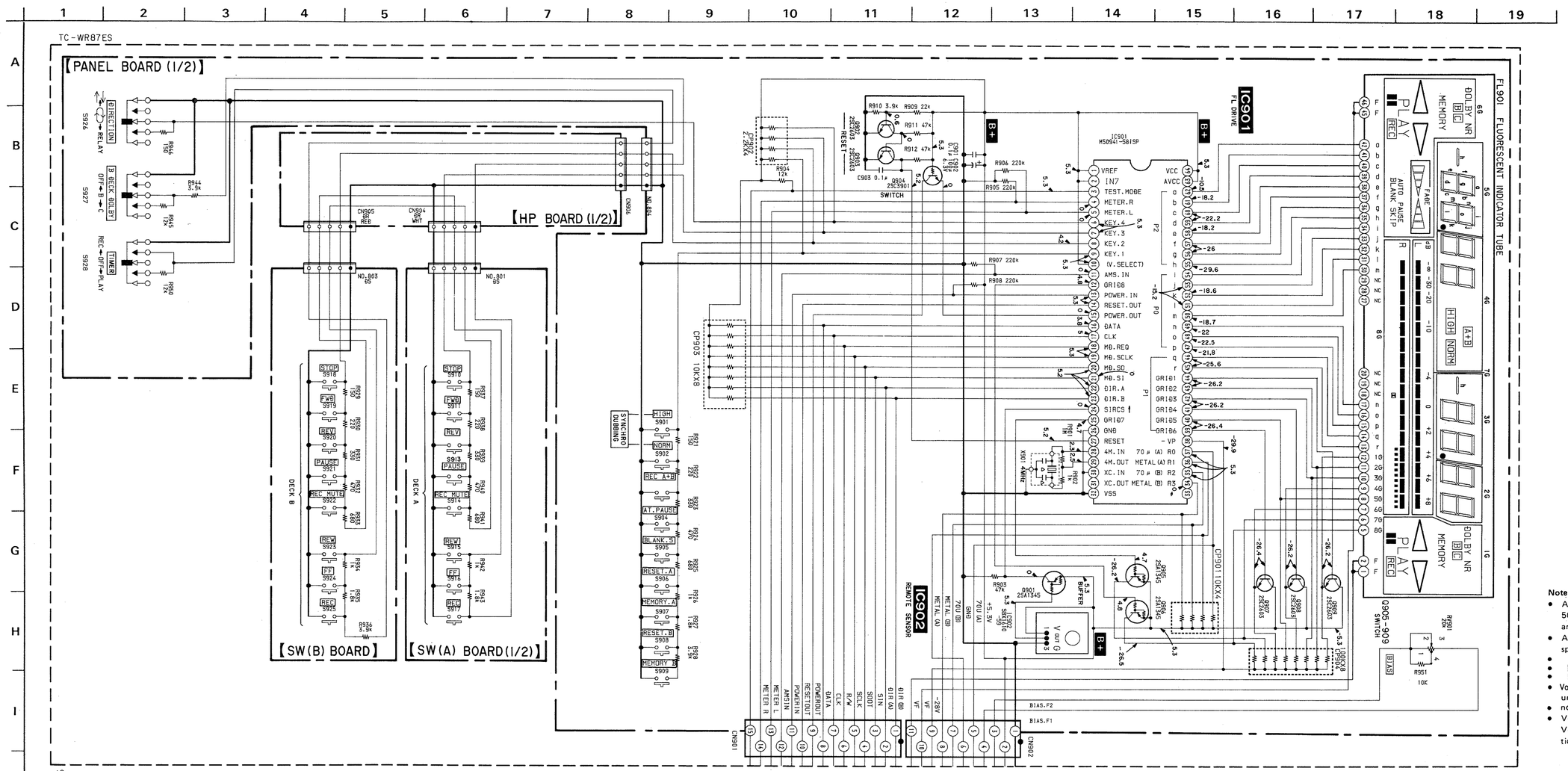
IC806, 807 MC14052BCP



Note:

- All capacitors are in μF unless otherwise noted. pF: μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- △ : internal component.
- B+ : B+ Line
- B− : B− Line
- ▭ : adjustment for repair.
- Voltage is dc with respect to ground under no-signal (detuned) conditions.
- no mark : POWER ON
- ▶ : FWD ◀ : REV ● : REC
- Voltages are taken with a VOM (Input Impedance 10MΩ). Voltage variations may be noted due to normal production tolerances.
- Signal path.
  - : REC (DECK A)
  - : REC (DECK B)
- WR775 : TC-WR775
  WR87ES : TC-WR87ES

5-6. SCHEMATIC DIAGRAM — Panel Section —



Note:

- All capacitors are in μF unless otherwise noted. pF: μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4W or less unless otherwise specified.
- △ : internal component.
- B+ : B+ Line
- B- : B- Line
- Voltage is dc with respect to ground under no-signal (detuned) conditions.
- no mark : POWER ON
- Voltages are taken with a VOM (Input Impedance 10MΩ). Voltage variations may be noted due to normal production tolerances.

SECTION 6
EXPLODED VIEWS

NOTE:

- −XX, −X mean standardized parts, so they may have some differences from the original one.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

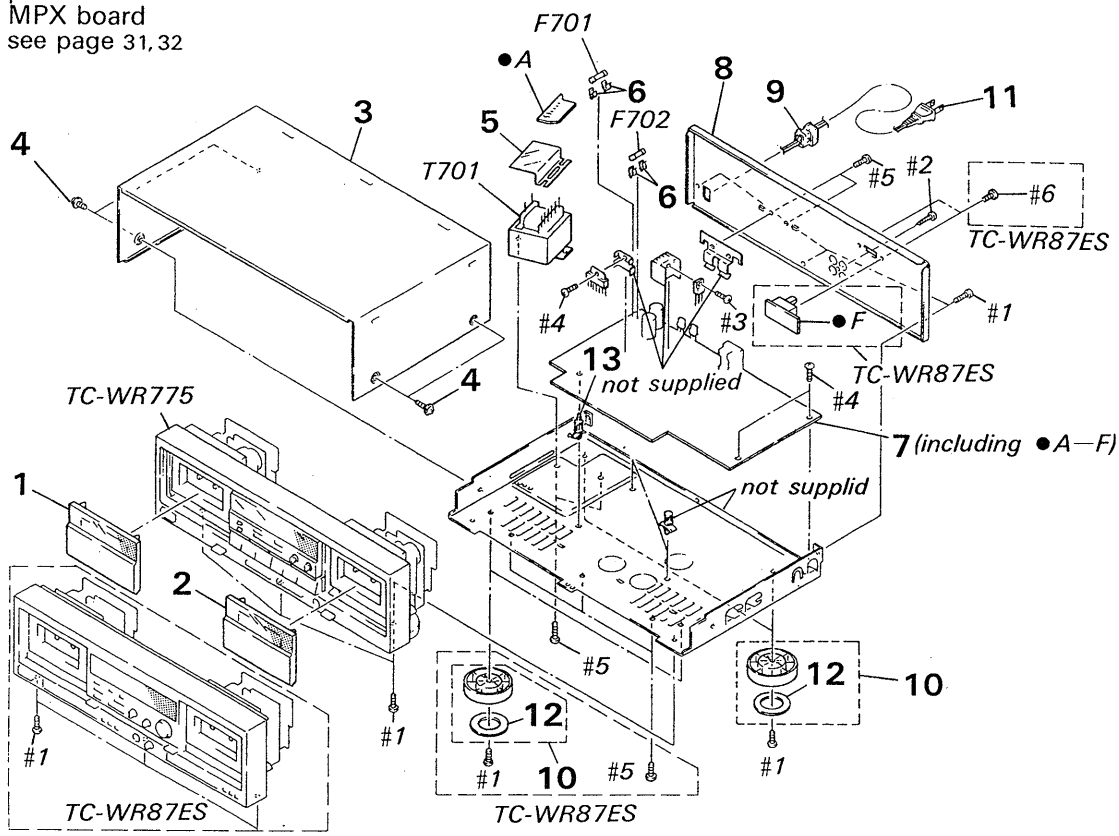
- Color Indication of Appearance Parts
  Example:
  KNOB, BALANCE(WHITE)...(RED)
  ↑ ↑
  Part's Color Cabinet's Color
- Hardware (#mark) list is given in the last of this parts list.
- WR775 : TC-WR775
  WR87ES : TC-WR87ES

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

6-1. CHASSIS SECTION

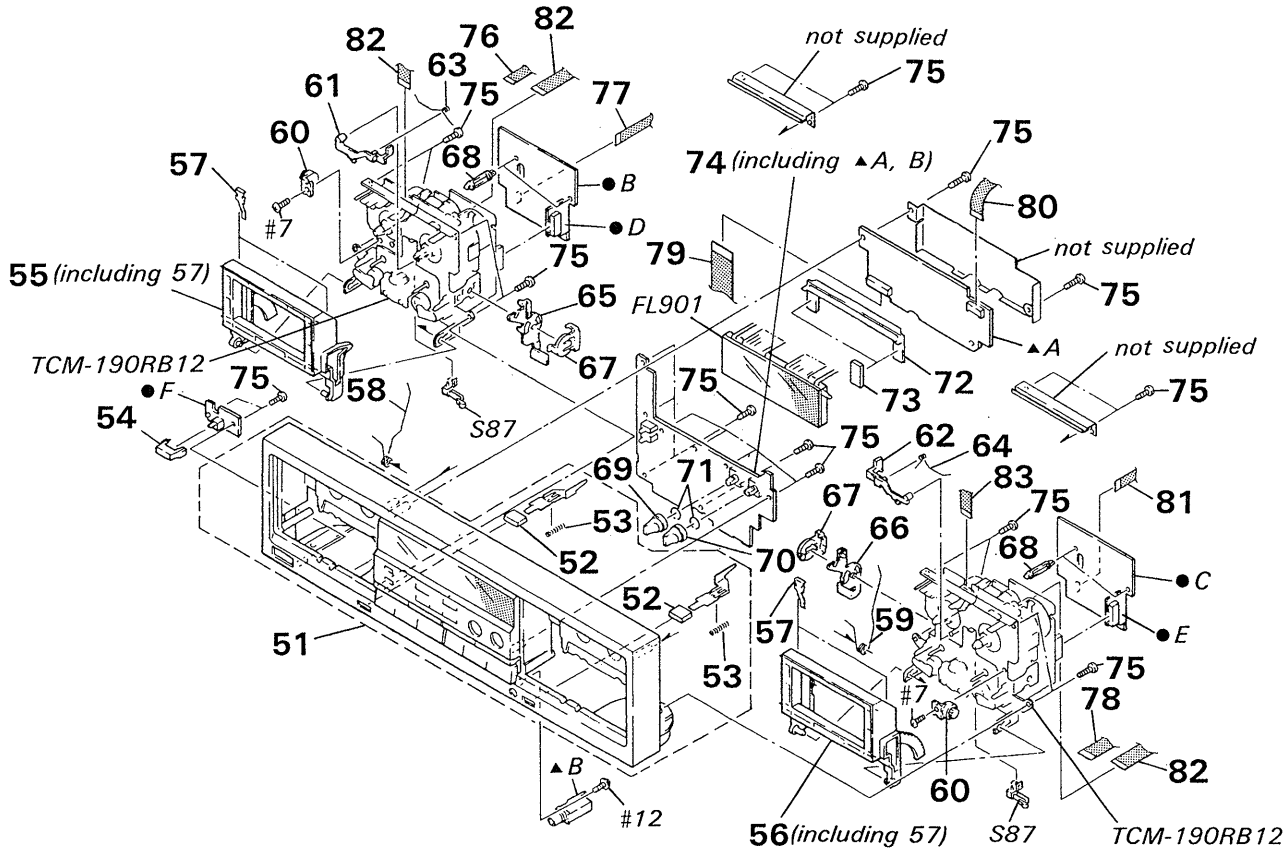
- ●A : power board
- ●F : MPX board
- ●B—F : see page 31,32



Ref. No.	Part No.	Description	Remark
1	X-3363-194-1	LID (A) ASSY, CASSETTE (WR87ES)	
1	X-3362-988-1	LID (A) ASSY, CASSETTE (WR775)	
2	X-3363-193-1	LID (B) ASSY, CASSETTE (WR87ES)	
2	X-3362-989-1	LID (B) ASSY, CASSETTE (WR775)	
3	* 4-929-294-52	CASE (WR87ES)	
3	* 4-929-294-42	CASE (WR775)	
4	3-704-366-01	SCREW (CASE) (M3X8)	
5	* 3-337-136-11	COVER, TRANSFORMER SAFETY	
6	* 1-533-213-31	HOLDER, FUSE	
7	* A-2006-511-A	SYSTEM CONTROL BOARD, COMPLETE (WR87ES)	
7	* A-2006-517-A	SYSTEM CONTROL BOARD, COMPLETE (WR775)	
8	* 3-365-370-01	PANEL, BACK (WR87ES)	
8	* 3-365-371-11	PANEL, BACK (WR775)	
9	* 3-703-244-00	BUSHING (2104), CORD (WR87ES)	
9	* 3-703-571-11	BUSHING (S) (4516), CORD (WR775)	
10	X-3304-938-2	FOOT ASSY (WR87ES)	
10	X-4885-950-1	FOOT ASSY (WR775)	
11	⚠ 1-555-465-00	CORD, POWER (WR87ES)	
11	⚠ 1-551-506-XX	CORD, POWER (WR775)	
12	4-923-836-11	CUSHION	
13	* 3-346-265-11	HOLDER, PC BOARD	
F701	⚠ 1-532-742-11	FUSE, GLASS TUBE (1.6A/125V)	
F702	⚠ 1-532-742-11	FUSE, GLASS TUBE (1.6A/125V)	
T701	⚠ 1-450-431-11	TRANSFORMER, POWER	

6-2. FRONT PANEL SECTION (TC-WR775)

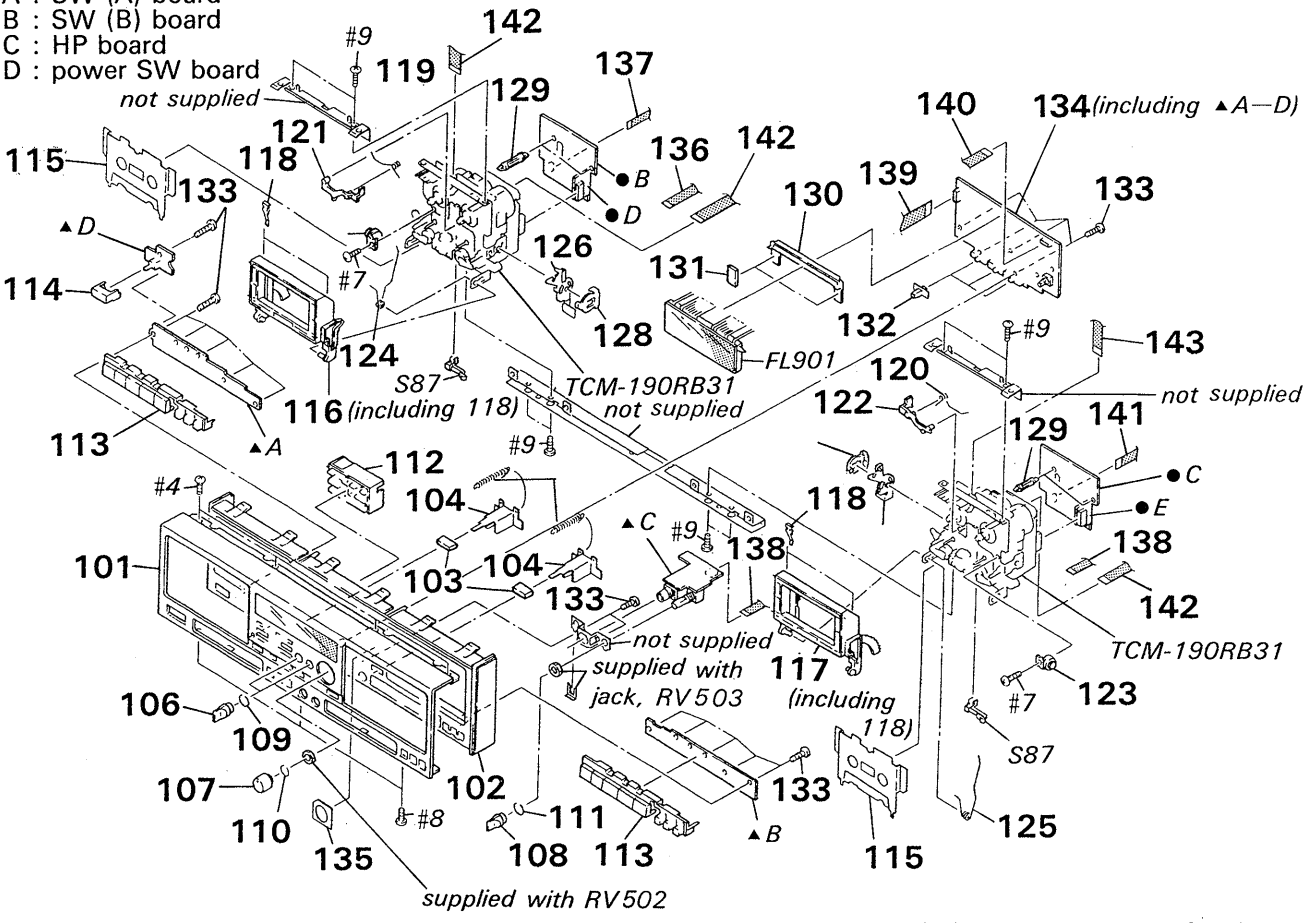
- ●B : HX-PRO board (A)
- ●C : HX-PRO board (B)
- ●D : translation board (A)
- ●E : translation board (B)
- ●F : power SW board
- ▲A : FL board
- ▲B : HP board



Ref. No.	Part No.	Description	Remark
51	X-3363-192-1	PANEL ASSY, FRONT (WR775)	
52	3-340-188-11	BUTTON (EJECT) (WR775)	
53	3-363-762-01	SPRING, COMPRESSION (WR775)	
54	3-354-932-01	BUTTON (POWER)	
55	X-3340-195-1	HOLDER (R) ASSY, CASSETTE	
56	X-3340-194-1	HOLDER (L) ASSY, CASSETTE	
57	3-308-823-11	SPRING	
58	3-354-960-01	SPRING (LOADING R), TORSION	
59	3-354-959-01	SPRING (LOADING L), TORSION	
60	3-354-963-01	DAMPER	
61	3-354-956-01	LEVER (EJ SAFTY LEVER R)	
62	3-354-955-01	LEVER (EJ SAFTY LEVER L)	
63	3-354-962-01	SPRING (EJ SAFTY SPRING R)	
64	3-354-961-01	SPRING (EJ SAFTY SPRING L)	
65	* 3-354-954-01	LEVER (LOCK LEVER R)	
66	* 3-354-953-01	LEVER (LOCK LEVER L)	
67	3-354-957-01	JOINT (LOCK LEVER)	
68	* 3-682-419-21	HOLDER, P.C.B	
69	3-367-431-01	KNOB (BAL) (WR775)	
70	3-367-431-11	KNOB (REC) (WR775)	
71	3-356-957-01	SPRING (WR775)	
72	3-365-420-01	HOLDER, FL TUBE	
73	* 9-911-844-XX	CUSHION (WR775)	
74	* A-2006-518-A	PANEL BOARD, COMPLETE (WR775)	
75	4-928-635-01	SCREW, +BV (2.6X8) TAPPING	
76	* 1-575-847-11	WIRE, FLAT TYPE (5 CORE)	
77	* 1-575-851-11	WIRE, FLAT TYPE (7 CORE)	
78	* 1-575-848-11	WIRE, FLAT TYPE (5 CORE)	
79	* 1-575-853-11	WIRE, FLAT TYPE (15 CORE)	
80	1-534-517-00	WIRE, FLAT TYPE (11 CORE)	
81	* 1-575-780-11	WIRE, FLAT TYPE (7 CORE)	
82	* 1-575-850-11	WIRE, FLAT TYPE (9 CORE)	
83	* 1-575-781-11	WIRE, FLAT TYPE (9 CORE)	
FL901	1-519-594-11	INDICATOR TUBE, FLUORESCENT	
S87	1-572-393-11	SWITCH, LEAF (DIRECTION)	

6-3. FRONT PANEL SECTION (TC-WR87ES)

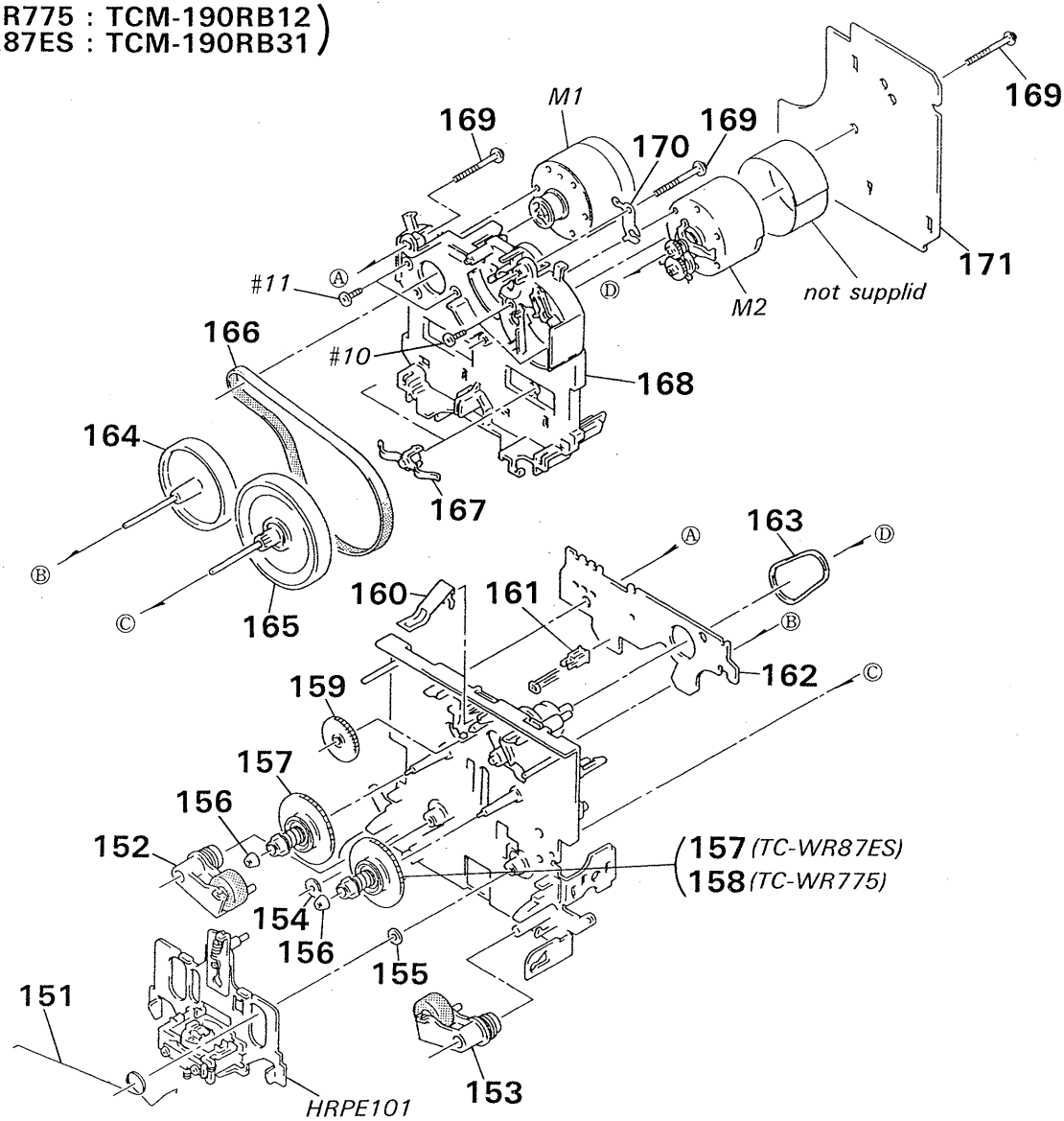
- ●B : HX-PRO board (A)
- ●C : HX-PRO board (B)
- ●D : translation board (A)
- ●E : translation board (B)
- ●F : power SW board
- ▲A : SW (A) board
- ▲B : SW (B) board
- ▲C : HP board
- ▲D : power SW board



Ref. No.	Part No.	Description	Remark
101	A-2003-820-A	PANEL ASSY, FRONT (WR87ES)	
102	3-354-916-12	PANEL (BASE) (WR87ES)	
103	3-359-907-01	BUTTON (EJECT) (WR87ES)	
104	* 3-359-935-01	LEVER (EJECT) (WR87ES)	
105	3-362-234-01	SPRING, TENSION (WR87ES)	
106	3-354-931-11	KNOB (DIA. 10) (WR87ES)	
107	3-359-932-01	KNOB (REC) (WR87ES)	
108	3-354-931-01	KNOB (DIA. 10) (WR87ES)	
109	3-354-981-01	SPRING (SUS), RING (WR87ES)	
110	3-362-235-01	SPRING (REC LEVEL), RING (WR87ES)	
111	3-356-935-01	SPRING (WR87ES)	
112	3-354-938-21	BUTTON (B) (WR87ES)	
113	3-365-419-01	BUTTON (A) (WR87ES)	
114	3-354-932-01	BUTTON (POWER)	
115	X-3346-313-1	RETAINER ASSY, CASSETTE (WR87ES)	
116	X-3340-195-1	HOLDER (R) ASSY, CASSETTE	
117	X-3340-194-1	HOLDER (L) ASSY, CASSETTE	
118	3-308-823-11	SPRING	
119	3-354-962-01	SPRING (EJ SAFTY SPRING R)	
120	3-354-961-01	SPRING (EJ SAFTY SPRING L)	
121	3-354-956-01	LEVER (EJ SAFTY LEVER R)	
122	3-354-955-01	LEVER (EJ SAFTY LEVER L)	
123	3-354-963-01	DAMPER	
124	3-354-960-01	SPRING (LOADING R), TORSION	
125	3-354-959-01	SPRING (LOADING L), TORSION	
126	* 3-354-954-01	LEVER (LOCK LEVER R)	
127	* 3-354-953-01	LEVER (LOCK LEVER L)	
128	3-354-957-01	JOINT (LOCK LEVER)	
129	* 3-682-419-21	HOLDER, P.C.B	
130	3-365-420-01	HOLDER, FL TUBE	
131	9-911-844-XX	CUSHION (WR87ES)	
132	4-922-518-01	KNOB (TIMER) (WR87ES)	
133	4-928-635-01	SCREW, +BV (2.6X8) TAPPING	
134	* A-2006-512-A	PANEL BOARD, COMPLETE (WR87ES)	
135	3-354-923-01	PLATE (VOL), ORNAMENTAL (WR87ES)	
136	* 1-575-847-11	WIRE, FLAT TYPE (5 CORE)	
137	* 1-575-851-11	WIRE, FLAT TYPE (7 CORE)	
138	* 1-575-848-11	WIRE, FLAT TYPE (5 CORE)	
139	* 1-575-853-11	WIRE, FLAT TYPE (15 CORE)	
140	1-534-517-00	WIRE, FLAT TYPE (11 CORE)	
141	* 1-575-780-11	WIRE, FLAT TYPE (7 CORE)	
142	* 1-575-850-11	WIRE, FLAT TYPE (9 CORE)	
143	* 1-575-781-11	WIRE, FLAT TYPE (9 CORE)	
FL901	1-519-594-11	INDICATOR TUBE, FLUORESCENT	
S87	1-572-393-11	SWITCH, LEAF (DIRECTION)	

6-4. MECHANISM SECTION-1

(TC-WR775 : TCM-190RB12
TC-WR87ES : TCM-190RB31)

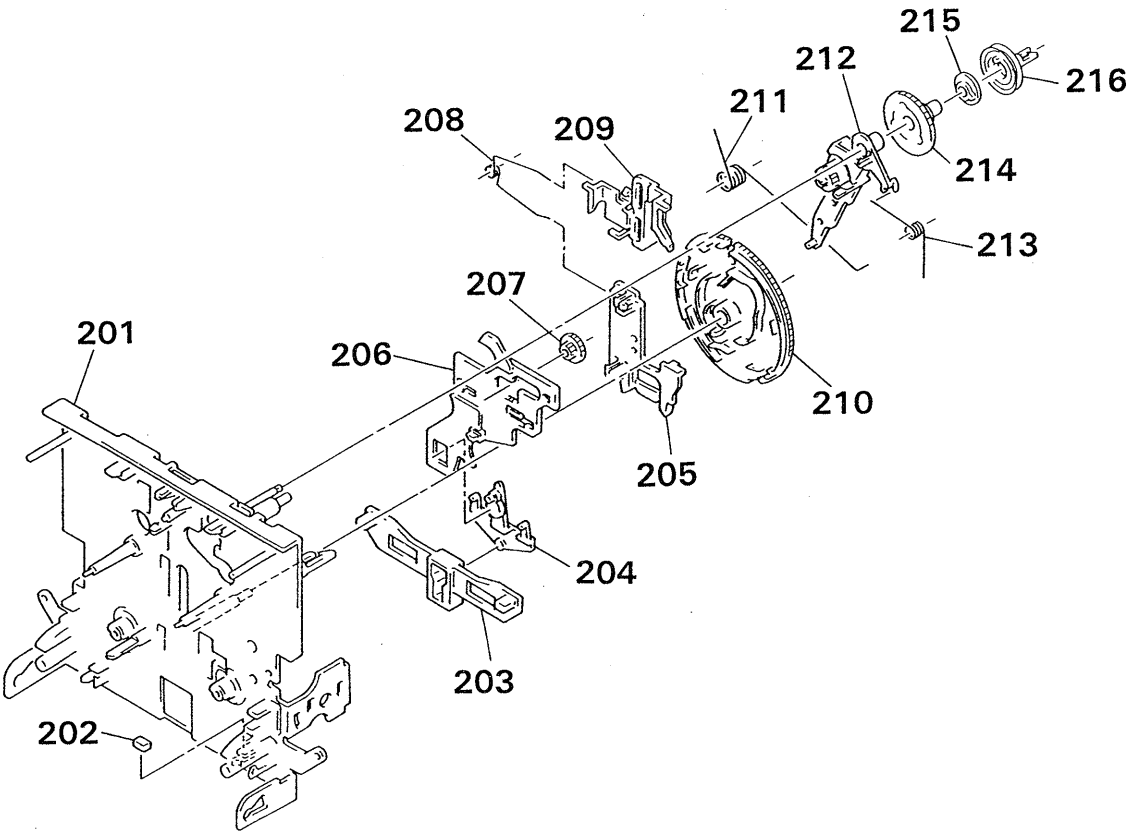


Ref. No.	Part No.	Description	Remark
151	3-359-455-01	SPRING, TORSION	
152	X-3359-409-1	LEVER (PINCH LEVER REV) ASSY	
153	X-3359-408-1	LEVER (PINCH LEVER FWD) ASSY	
154	3-356-714-01	WASHER	
155	3-356-713-01	WASHER	
156	3-362-308-01	CAP (REEL)	
157	X-3362-078-1	TABLE ASSY (B), REEL (WR87ES)	
158	X-3359-404-1	TABLE ASSY, REEL (WR775)	
159	3-359-424-01	GEAR (REV GEAR)	
160	3-359-430-01	SPRING(CASSETTE RETAINER), LEAF	
161	3-343-419-01	HOLDER (S SENSER A)	
162	* 1-634-841-11	SW-A BOARD	
163	3-359-466-01	BELT (FR), SQUARE	

Ref. No.	Part No.	Description	Remark
164	X-3359-410-1	FLYWHEEL (REV) ASSY	
165	X-3359-406-1	FLYWHEEL (FWD) COMPLETE ASSY	
166	3-359-417-01	BELT (FLAT), CAPSTAN	
167	3-575-321-00	RETAINER, THRUST, CAPSTAN	
168	* 3-359-436-01	BASE (THRUST RETAINER), FITTING	
169	3-359-414-01	SCREW (+PTPWH 2X23)	
170	3-359-450-01	PLATE, GROUND	
171	* 1-634-842-11	MD-C BOARD	
HRPE101	A-2003-420-A	BASE ASSY, HEAD (REC/PB/ERASE)	(WR87ES)
HRPE101	A-2003-477-A	BASE ASSY, HEAD (REC/PB/ERASE)	(WR775)
M1	X-3359-417-1	MOTOR ASSY (CAPSTAN)	
M2	A-2003-474-A	MOTOR ASSY (REEL)	

6-5. MECHANISM SECTION-2

(TC-WR775 : TCM-190RB12
TC-WR87ES : TCM-190RB31)



Ref. No.	Part No.	Description	Remark
201	X-3359-415-1	CHASSIS ASSY, MECHANICAL	
202	3-359-469-01	SPACER	
203	* 3-359-425-01	SLIDER (REVERSE SLIDER)	
204	3-359-426-01	LEVER (REVERSE LEVER)	
205	* 3-359-427-01	SLIDER (LEVERSE SLIDER)	
206	* 3-359-415-01	SLIDER (TRIGGER SLIDER)	
207	3-359-448-01	GEAR (TRIGGER)	
208	3-359-454-01	SPRING, TORSION	
209	3-359-429-01	SLIDER (BRAKE PLATE)	
210	3-359-420-01	GEAR (CAM GEAR)	
211	3-359-456-01	SPRING (TRIGGER SPRING), TORSION	
212	X-3359-405-1	LEVER (FR ARM) ASSY	
213	3-359-453-01	SPRING (FR ARM), TORSION	
214	3-359-419-01	GEAR (FR GEAR)	
215	3-359-421-01	CLUTCH (REEL DISK)	
216	3-359-418-01	PULLEY (FR PULLEY)	

SECTION 7
ELECTRICAL PARTS LIST

MD-C

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- −XX, −X mean standardized parts, so they may have some differences from the original one.
- RESISTORS
  All resistors are in ohms
  METAL : Metal-film resistor
  METAL OXIDE : Metal Oxide-film resistor
  F : nonflammable
- SEMICONDUCTORS
  In each case, u: μ, for example:
  uA··· : μA···, uPA··· : μPA···,
  uPB··· : μPB···, uPC··· : μPC···,
  uPD··· : μPD···
- CAPACITORS
  uF : μF
- COILS
  uH : μH
- WR775 : TC-WR775
  WR87ES : TC-WR87ES

When indicating parts by reference number, please include the board name.

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

Ref. No.	Part No.	Description				Remark
	1-634-842-11	MD-C BOARD				
		**********				
		< CAPACITOR >				
C11	1-110-342-11	MYLAR	390PF	5%	50V	(WR775)
C11	1-130-469-00	MYLAR	680PF	5%	50V	(WR87ES)
C12	1-136-157-00	FILM	0.022uF	5%	50V	
C13	1-124-282-00	ELECT	22uF	20%	25V	
C21	1-110-342-11	MYLAR	390PF	5%	50V	(WR775)
C21	1-130-469-00	MYLAR	680PF	5%	50V	(WR87ES)
C22	1-136-157-00	FILM	0.022uF	5%	50V	(WR775)
C23	1-124-282-00	ELECT	22uF	20%	25V	
C31	1-124-443-00	ELECT	100uF	20%	10V	
C32	1-124-443-00	ELECT	100uF	20%	10V	
C33	1-124-119-00	ELECT	330uF	20%	16V	
C51	1-136-230-00	FILM	0.0022uF	5%	100V	
C52	1-136-230-00	FILM	0.0022uF	5%	100V	
C53	1-130-856-00	FILM	0.0068uF	5%	100V	
C54	1-136-558-11	FILM	0.0039uF	5%	630V	(WR87ES)
C54	1-136-601-11	FILM	0.01uF	5%	630V	(WR775)
C55	1-161-494-00	CERAMIC	0.022uF		25V	
C56	1-126-157-11	ELECT	10uF	20%	16V	
C71	1-124-907-11	ELECT	10uF	20%	50V	
C72	1-124-907-11	ELECT	10uF	20%	50V	
		< CONNECTOR >				
CNP31	* 1-568-824-11	SOCKET, CONNECTOR 5P				
CNP32	* 1-564-709-11	PIN, CONNECTOR (SMALL TYPE) 7P				
CNP34	* 1-565-344-11	PIN, CONNECTOR (PC BOARD) 8P				
CNP71	* 1-564-705-11	PIN, CONNECTOR (SMALL TYPE) 3P				
CNP72	* 1-564-706-11	PIN, CONNECTOR (SMALL TYPE) 4P				
CNP73	* 1-568-828-11	SOCKET, CONNECTOR 9P				
CNP75	* 1-564-704-11	PIN, CONNECTOR (SMALL TYPE) 2P				
		< DIODE >				
D31	8-719-107-94	DIODE 1SS202-1				
		< IC >				
IC31	8-759-111-44	IC uPC4570C-1				
		< TRANSISTOR >				
Q51	8-729-194-57	TRANSISTOR 2SC945-P				
Q52	8-729-194-57	TRANSISTOR 2SC945-P				
Q53	8-729-801-84	TRANSISTOR 2SB1013-34				
Q71	8-729-820-16	TRANSISTOR 2SA1317-S				
		< RESISTOR >				
R11	1-247-881-00	CARBON	120K	5%	1/4W	(WR775)
R11	1-249-435-11	CARBON	33K	5%	1/4W	(WR87ES)
R12	1-249-404-00	CARBON	82	5%	1/4W	(WR87ES)
R12	1-249-405-11	CARBON	100	5%	1/4W	(WR775)
R13	1-247-882-11	CARBON	130K	5%	1/4W	
R14	1-249-426-11	CARBON	5.6K	5%	1/4W	
R21	1-247-881-00	CARBON	120K	5%	1/4W	(WR775)
R21	1-249-435-11	CARBON	33K	5%	1/4W	(WR87ES)
R22	1-249-404-00	CARBON	82	5%	1/4W	(WR87ES)
R22	1-249-405-11	CARBON	100	5%	1/4W	(WR775)
R23	1-247-882-11	CARBON	130K	5%	1/4W	
R24	1-249-426-11	CARBON	5.6K	5%	1/4W	
R31	1-249-409-11	CARBON	220	5%	1/4W	
R32	1-249-409-11	CARBON	220	5%	1/4W	

MD-C SW-A PANEL

INCLUDING SW(A), SW(B), HP, POWER SW, FL

Ref.No.	Part No.	Description				Remark
R51	1-249-437-11	CARBON	47K	5%	1/4W	(WR87ES)
R51	1-249-441-11	CARBON	100K	5%	1/4W	(WR775)
R52	1-249-437-11	CARBON	47K	5%	1/4W	(WR87ES)
R52	1-249-441-11	CARBON	100K	5%	1/4W	(WR775)
R53	1-249-429-11	CARBON	10K	5%	1/4W	
R54	⚠ 1-212-849-00	FUSIBLE	4.7	5%	1/4W	F (WR87ES)
R54	⚠ 1-212-851-00	FUSIBLE	5.6	5%	1/4W	F (WR775)
R55	1-249-429-11	CARBON	10K	5%	1/4W	
R71	1-247-864-11	CARBON	24K	5%	1/4W	
R72	1-249-433-11	CARBON	22K	5%	1/4W	
R73	1-249-437-11	CARBON	47K	5%	1/4W	
R74	1-249-437-11	CARBON	47K	5%	1/4W	
		< VARIABLE RESISTOR >				
RV11	1-238-597-11	RES, ADJ, CARBON 1K				
RV21	1-238-597-11	RES, ADJ, CARBON 1K				
RV71	1-238-600-11	RES, ADJ, CARBON 10K				
RV72	1-238-600-11	RES, ADJ, CARBON 10K				
		< RELAY >				
RY31	1-515-726-11	RELAY				
		< TRANSFORMER >				
T51	1-433-366-11	TRANSFORMER, BIAS OSCILLATION				
**********						
*	1-634-841-11	SW-A BOARD				
		**********				
	3-343-419-01	HOLDER (S SENSER A)				
		< CONNECTOR >				
CNP81	* 1-568-852-11	SOCKET, CONNECTOR 9P				
		< IC >				
IC81	8-719-710-03	PHOTO SENSOR NJL5165K-B				
IC82	8-719-710-03	PHOTO SENSOR NJL5165K-B				(WR87ES)
		< RESISTOR >				
R81	1-249-414-11	CARBON	560	5%	1/4W	
R82	1-247-818-11	CARBON	300	5%	1/4W	
R83	1-247-834-11	CARBON	1.3K	5%	1/4W	
R84	1-249-417-11	CARBON	1K	5%	1/4W	
R85	1-249-408-11	CARBON	180	5%	1/4W	
R86	1-249-408-11	CARBON	180	5%	1/4W	(WR87ES)

Ref.No.	Part No.	Description				Remark
		< SWITCH >				
S81	1-571-958-11	SWITCH, PUSH (1 KEY) (STOP)				
S82	1-571-281-21	SWITCH, LEAF (CrO2)				
S83	1-571-281-21	SWITCH, LEAF (METAL)				
S84	1-571-281-21	SWITCH, LEAF (ERASE PROOF A)				
S85	1-571-281-21	SWITCH, LEAF (ERASE PROOF B)				
S86	1-571-281-21	SWITCH, LEAF (HALF)				
**********						
*	A-2006-512-A	PANEL BOARD, COMPLETE (INCLUDING SW(A), SW(B), HP, POWER SW BOARD)				(WR87ES)
*	A-2006-518-A	PANEL BOARD, COMPLETE (INCLUDING FL, HP BOARD)				(WR775)
		**********				
	9-911-844-XX	CUSHION				
	3-365-420-01	HOLDER, FL TUBE				
		< CAPACITOR >				
C901	1-164-159-11	CERAMIC	0.1uF			50V
C902	1-124-443-11	ELECT	100uF	20%	6.3V	(WR87ES)
C902	1-128-340-91	ELECT	100uF	20%	6.3V	(WR775)
C903	1-164-159-11	CERAMIC	0.1uF			50V
		< CONNECTOR >				
CN901	* 1-568-834-11	SOCKET, CONNECTOR 15P				(WR87ES)
CN901	* 1-568-858-11	SOCKET, CONNECTOR 15P				(WR775)
CN902	* 1-568-830-11	SOCKET, CONNECTOR 11P				
CN904	* 1-564-498-11	PIN, CONNECTOR 5P				(WR87ES)
CN905	* 1-564-498-11	PIN, CONNECTOR 5P				(WR87ES)
CN906	* 1-564-498-11	PIN, CONNECTOR 5P				(WR87ES)
		< CIRCUIT BLOCK >				
CP901	1-232-946-11	COMPOSITION CIRCUIT BLOCK				(10kX4)
CP902	1-239-059-11	COMPOSITION CIRCUIT BLOCK				(2.2kX4)
CP903	1-233-199-11	COMPOSITION CIRCUIT BLOCK				(10kX8)
CP904	1-239-060-11	COMPOSITION CIRCUIT BLOCK				(100kX8)
		< FLUORESCENT INDICATOR >				
FL901	1-519-594-11	INDICATOR TUBE, FLUORESCENT				
		< IC >				
IC901	8-759-636-52	IC M50941-581SP				(WR87ES)
IC901	8-759-636-78	IC M50941-580SP				(WR775)
IC902	8-741-100-48	IC SBX1610-59				

Note:
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Note:
Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

PANEL

INCLUDING SW(A), SW(B), HP, POWER SW, FL

Ref. No.	Part No.	Description				Remark
		< JACK >				
J501	1-507-796-71	JACK (PHONES)				
		< TRANSISTOR >				
Q901	8-729-900-65	TRANSISTOR DTA144ES				
Q902	8-729-620-05	TRANSISTOR 2SC2603-EF				
Q903	8-729-620-05	TRANSISTOR 2SC2603-EF				
Q904	8-729-900-74	TRANSISTOR DTC143TS				
Q905	8-729-900-65	TRANSISTOR DTA144ES				
Q906	8-729-900-65	TRANSISTOR DTA144ES				
Q907	8-729-620-05	TRANSISTOR 2SC2603-EF				
Q908	8-729-620-05	TRANSISTOR 2SC2603-EF				
Q909	8-729-620-05	TRANSISTOR 2SC2603-EF				
		< RESISTOR >				
R901	1-247-903-00	CARBON	1M	5%	1/4W	
R902	1-249-417-11	CARBON	1K	5%	1/4W	
R903	1-249-437-11	CARBON	47K	5%	1/4W	
R904	1-249-430-11	CARBON	12K	5%	1/4W	
R905	1-247-887-00	CARBON	220K	5%	1/4W	
R906	1-247-887-00	CARBON	220K	5%	1/4W	
R907	1-247-887-00	CARBON	220K	5%	1/4W	
R908	1-247-887-00	CARBON	220K	5%	1/4W	
R909	1-249-433-11	CARBON	22K	5%	1/4W	
R910	1-249-424-11	CARBON	3.9K	5%	1/4W	
R911	1-249-437-11	CARBON	47K	5%	1/4W	
R912	1-249-437-11	CARBON	47K	5%	1/4W	
R921	1-249-407-11	CARBON	150	5%	1/4W	
R922	1-249-409-11	CARBON	220	5%	1/4W	
R923	1-249-411-11	CARBON	330	5%	1/4W	
R924	1-249-413-11	CARBON	470	5%	1/4W	
R925	1-249-415-11	CARBON	680	5%	1/4W	
R926	1-249-417-11	CARBON	1K	5%	1/4W	
R927	1-249-420-11	CARBON	1.8K	5%	1/4W	
R928	1-249-424-11	CARBON	3.9K	5%	1/4W	
R929	1-249-407-11	CARBON	150	5%	1/4W	
R930	1-249-409-11	CARBON	220	5%	1/4W	
R931	1-249-411-11	CARBON	330	5%	1/4W	
R932	1-249-413-11	CARBON	470	5%	1/4W	
R933	1-249-415-11	CARBON	680	5%	1/4W	
R934	1-249-417-11	CARBON	1K	5%	1/4W	
R935	1-249-420-11	CARBON	1.8K	5%	1/4W	
R936	1-249-424-11	CARBON	3.9K	5%	1/4W	(WR87ES)
R937	1-249-407-11	CARBON	150	5%	1/4W	
R938	1-249-409-11	CARBON	220	5%	1/4W	
R939	1-249-411-11	CARBON	330	5%	1/4W	
R940	1-249-413-11	CARBON	470	5%	1/4W	
R941	1-249-415-11	CARBON	680	5%	1/4W	
R942	1-249-417-11	CARBON	1K	5%	1/4W	
R943	1-249-420-11	CARBON	1.8K	5%	1/4W	
R944	1-249-424-11	CARBON	3.9K	5%	1/4W	
R945	1-249-430-11	CARBON	12K	5%	1/4W	
R946	1-249-407-11	CARBON	150	5%	1/4W	
R950	1-249-430-11	CARBON	12K	5%	1/4W	(WR87ES)
R951	1-249-429-11	CARBON	10K	5%	1/4W	(WR87ES)
		< VARIABLE RESISTOR >				
RV501	1-241-503-11	RES, VAR, CARBON 50K/50K (BALANCE)				
RV502	1-241-502-11	RES, VAR, CARBON 50K/50K (REC LEVEL)				
RV901	1-241-134-11	RES, VAR, CARBON 20K (BIAS) (WR87ES)				
		< SWITCH >				
S901	1-554-303-21	SWITCH, TACTILE (HIGH SPEED SYNCHRO DUBBING)				
S902	1-554-303-21	SWITCH, TACTILE (NORM SPEED SYNCHRO DUBBING)				
S903	1-554-303-21	SWITCH, TACTILE (REC A+B)				
S904	1-554-303-21	SWITCH, TACTILE (AUTO PAUSE)				
S905	1-554-303-21	SWITCH, TACTILE (BLANK SKIP)				
S906	1-554-303-21	SWITCH, TACTILE (RESET A)				
S908	1-554-303-21	SWITCH, TACTILE (RESET B)				
S909	1-554-303-21	SWITCH, TACTILE (MEMORY)				
S910	1-554-303-21	SWITCH, TACTILE (STOP A)				
S911	1-554-303-21	SWITCH, TACTILE (FWD A)				
S912	1-554-303-21	SWITCH, TACTILE (REV A)				
S913	1-554-303-21	SWITCH, TACTILE (PAUSE A)				
S914	1-554-303-21	SWITCH, TACTILE (REC MUTE A)				
S915	1-554-303-21	SWITCH, TACTILE (REW A)				
S916	1-554-303-21	SWITCH, TACTILE (FF A)				
S917	1-554-303-21	SWITCH, TACTILE (REC A)				
S918	1-554-303-21	SWITCH, TACTILE (STOP B)				
S919	1-554-303-21	SWITCH, TACTILE (FWD B)				
S920	1-554-303-21	SWITCH, TACTILE (REV B)				
S921	1-554-303-21	SWITCH, TACTILE (PAUSE B)				
S922	1-554-303-21	SWITCH, TACTILE (REC MUTE B)				
S923	1-554-303-21	SWITCH, TACTILE (REW B)				
S924	1-554-303-21	SWITCH, TACTILE (FF B)				
S925	1-554-303-21	SWITCH, TACTILE (REC B)				
S926	1-571-520-11	SWITCH, SLIDE (DIRECTION) (WR87ES)				
S926	1-572-401-11	SWITCH, SLIDE (DIRECTION) (WR775)				
S927	1-571-520-11	SWITCH, SLIDE (B DECK DOLBY) (WR87ES)				
S927	1-572-401-11	SWITCH, SLIDE (B DECK DOLBY) (WR775)				
S928	1-571-520-11	SWITCH, SLIDE (TIMER OFF) (WR87ES)				

PANEL

INCLUDING SW(A), SW(B), HP, POWER SW, FL

SYSTEM CONTROL

INCLUDING HX PRO(A), HX PRO(B), TRANSLATION(A), TRANSLATION(B), MPX, POWER SW

Ref. No.	Part No.	Description			Remark
		< CERAMIC >			
X901	1-577-358-21	VIBRATOR, CERAMIC (4MHz)			
**********					
	* A-2006-511-A	SYSTEM CONTROL BOARD, COMPLETE (INCLUDING HX PRO (A), HX PRO (B), TRANSLATION (A), TRAMSLATION (B), MPX BOARD) (WR87ES)			
	* A-2006-517-A	SYSTEM CONTROL BOARD, COMPLETE (INCLUDING HX PRO (A), HX PRO (B), TRANSLATION (A), TRANSLATION (B), POWER SW BOARD) (WR775)			
		**********			
	* 1-533-213-31	HOLDER, FUSE			
	* 1-533-213-31	HOLDER, FUSE			
	7-685-646-79	SCREW +BVTP 3X8 TYPE2 SLIT			
	7-682-547-04	SCREW +BVTT 3X6 (S)			
		< CAPACITOR >			
C101	1-136-157-00	FILM	0.022uF	5% 50V	
C102	1-162-294-31	CERAMIC	0.001uF	10% 50V	
C103	1-161-375-00	CERAMIC	0.0022uF	20% 50V	
C104	1-130-475-00	MYLAR	0.0022uF	5% 50V	
C105	1-130-475-00	MYLAR	0.0022uF	5% 50V	
C106	1-136-174-00	FILM	0.56uF	5% 50V	
C107	1-136-171-00	FILM	0.33uF	5% 50V	
C108	1-124-907-11	ELECT	10uF	20% 50V	
C109	1-124-126-00	ELECT	47uF	20% 10V	
C110	1-124-907-11	ELECT	10uF	20% 50V	
C111	1-124-903-11	ELECT	1uF	20% 50V	
C121	1-124-907-11	ELECT	10uF	20% 50V	
C122	1-124-907-11	ELECT	10uF	20% 50V	
C124	1-124-902-00	ELECT	0.47uF	20% 50V	
C131	1-123-382-00	ELECT	3.3uF	20% 100V	
C151	1-124-907-11	ELECT	10uF	20% 50V	
C152	1-124-907-11	ELECT	10uF	20% 50V	
C154	1-124-902-00	ELECT	0.47uF	20% 50V	
C181	1-126-096-11	ELECT	10uF	20% 25V	(WR87ES)
C201	1-136-157-00	FILM	0.022uF	5% 50V	
C202	1-162-294-31	CERAMIC	0.001uF	10% 50V	
C203	1-161-375-00	CERAMIC	0.0022uF	20% 50V	
C204	1-130-475-00	MYLAR	0.0022uF	5% 50V	
C205	1-130-475-00	MYLAR	0.0022uF	5% 50V	
C206	1-136-174-00	FILM	0.56uF	5% 50V	
C207	1-136-171-00	FILM	0.33uF	5% 50V	
C208	1-124-907-11	ELECT	10uF	20% 50V	
C209	1-124-126-00	ELECT	47uF	20% 10V	
C210	1-124-907-11	ELECT	10uF	20% 50V	
C211	1-124-903-11	ELECT	1uF	20% 50V	

Ref. No.	Part No.	Description			Remark
C221	1-124-907-11	ELECT	10uF	20% 50V	
C222	1-124-907-11	ELECT	10uF	20% 50V	
C224	1-124-902-00	ELECT	0.47uF	20% 50V	
C231	1-123-382-00	ELECT	3.3uF	20% 100V	
C251	1-124-907-11	ELECT	10uF	20% 50V	
C252	1-124-907-11	ELECT	10uF	20% 50V	
C254	1-124-902-00	ELECT	0.47uF	20% 50V	
C281	1-126-096-11	ELECT	10uF	20% 25V	(WR87ES)
C391	1-136-273-91	FILM	75PF	5% 630V	(WR775)
C391	1-136-935-11	FILM	22PF	5% 630V	(WR87ES)
C392	1-162-285-31	CERAMIC	180PF	10% 50V	(WR87ES)
C392	1-162-288-31	CERAMIC	330PF	10% 50V	(WR775)
C393	1-130-468-00	MYLAR	560PF	5% 50V	(WR87ES)
C393	1-130-472-00	MYLAR	0.0012uF	5% 50V	(WR775)
C394	1-136-433-11	FILM	100PF	5% 630V	
C395	1-136-272-00	FILM	68PF	5% 630V	(WR87ES)
C395	1-136-437-11	FILM	220PF	5% 630V	(WR775)
C396	1-136-165-00	FILM	0.1uF	5% 50V	
C397	1-136-157-00	FILM	0.022uF	5% 50V	
C398	1-136-153-00	FILM	0.01uF	5% 50V	
C491	1-136-273-91	FILM	75PF	5% 630V	(WR775)
C491	1-136-935-11	FILM	22PF	5% 630V	(WR87ES)
C492	1-162-285-31	CERAMIC	180PF	10% 50V	(WR87ES)
C492	1-162-288-31	CERAMIC	330PF	10% 50V	(WR775)
C493	1-130-468-00	MYLAR	560PF	5% 50V	(WR87ES)
C493	1-130-472-00	MYLAR	0.0012uF	5% 50V	(WR775)
C494	1-136-433-11	FILM	100PF	5% 630V	
C495	1-136-272-00	FILM	68PF	5% 630V	(WR87ES)
C495	1-136-437-11	FILM	220PF	5% 630V	(WR775)
C496	1-136-165-00	FILM	0.1uF	5% 50V	
C497	1-136-157-00	FILM	0.022uF	5% 50V	
C498	1-136-153-00	FILM	0.01uF	5% 50V	
C506	1-124-903-11	ELECT	1uF	20% 50V	
C542	1-124-925-11	ELECT	2.2uF	20% 100V	
C591	1-126-927-11	ELECT	2200uF	20% 10V	
C592	1-124-589-11	ELECT	47uF	20% 16V	(WR87ES)
C593	1-124-589-11	ELECT	47uF	20% 16V	(WR87ES)
C599	1-124-925-11	ELECT	2.2uF	20% 100V	
C601	1-124-925-11	ELECT	2.2uF	20% 100V	
C602	1-162-286-31	CERAMIC	220PF	10% 50V	
C603	1-162-286-31	CERAMIC	220PF	10% 50V	
C604	1-124-925-11	ELECT	2.2uF	20% 100V	
C605	1-136-157-00	FILM	0.022uF	5% 50V	

SYSTEM CONTROL

INCLUDING HX PRO(A), HX PRO(B), TRANSLATION(A), TRANSLATION(B), MPX, POWER SW

Ref. No.	Part No.	Description				Remark
C608	1-124-925-11	ELECT	2.2uF	20%	100V	
C691	1-107-046-00	MICA	4.7PF		500V	
C692	1-124-126-00	ELECT	47uF	20%	10V	
C693	1-126-101-11	ELECT	100uF	20%	16V	
C694	1-124-902-00	ELECT	0.47uF	20%	50V	
C701	1-124-443-00	ELECT	100uF	20%	10V	
C702	1-124-122-11	ELECT	100uF	20%	50V	
C703	1-124-925-11	ELECT	2.2uF	20%	100V	
C704	1-124-911-11	ELECT	220uF	20%	50V	
C705	1-124-927-11	ELECT	4.7uF	20%	100V	
C707	1-124-925-11	ELECT	2.2uF	20%	100V	
C708	1-124-564-11	ELECT	4700uF	20%	25V	
C709	1-124-126-00	ELECT	47uF	20%	10V	
C710	1-126-927-11	ELECT	2200uF	20%	10V	
C711	1-126-927-11	ELECT	2200uF	20%	10V	
C712	1-126-946-11	ELECT	6800uF	20%	25V	
C713	1-161-494-00	CERAMIC	0.022uF		25V	
C801	1-124-443-00	ELECT	100uF	20%	10V	
C802	1-164-159-11	CERAMIC	0.1uF		50V	
C803	1-164-159-11	CERAMIC	0.1uF		50V	
C804	1-124-443-00	ELECT	100uF	20%	10V	
C805	1-124-925-11	ELECT	2.2uF	20%	100V	
C806	1-136-165-00	FILM	0.1uF	5%	50V	
C807	1-136-165-00	FILM	0.1uF	5%	50V	
C851	1-124-902-00	ELECT	0.47uF	20%	50V	
C861	1-162-294-31	CERAMIC	0.001uF	10%	50V	
C0391	1-136-273-91	FILM	75PF	5%	630V	(WR775)
C0391	1-136-935-11	FILM	22PF	5%	630V	(WR87ES)
C0392	1-162-285-31	CERAMIC	180PF	10%	50V	(WR87ES)
C0392	1-162-288-31	CERAMIC	330PF	10%	50V	(WR775)
C0393	1-130-468-00	MYLAR	560PF	5%	50V	(WR87ES)
C0393	1-130-472-00	MYLAR	0.0012uF	5%	50V	(WR775)
C0394	1-136-433-11	FILM	100PF	5%	630V	
C0395	1-136-272-00	FILM	68PF	5%	630V	(WR87ES)
C0395	1-136-437-11	FILM	220PF	5%	630V	(WR775)
C0396	1-136-165-00	FILM	0.1uF	5%	50V	
C0397	1-136-157-00	FILM	0.022uF	5%	50V	
C0398	1-136-153-00	FILM	0.01uF	5%	50V	
C0491	1-136-273-91	FILM	75PF	5%	630V	(WR775)
C0491	1-136-935-11	FILM	22PF	5%	630V	(WR87ES)
C0492	1-162-285-31	CERAMIC	180PF	10%	50V	(WR87ES)
C0492	1-162-288-31	CERAMIC	330PF	10%	50V	(WR775)
C0493	1-130-468-00	MYLAR	560PF	5%	50V	(WR87ES)
C0493	1-130-472-00	MYLAR	0.0012uF	5%	50V	(WR775)

Ref. No.	Part No.	Description				Remark
C0494	1-136-433-11	FILM	100PF	5%	630V	
C0495	1-136-272-00	FILM	68PF	5%	630V	(WR87ES)
C0495	1-136-437-11	FILM	220PF	5%	630V	(WR775)
C0496	1-136-165-00	FILM	0.1uF	5%	50V	
C0497	1-136-157-00	FILM	0.022uF	5%	50V	
C0498	1-136-153-00	FILM	0.01uF	5%	50V	
C0691	1-107-046-00	MICA	4.7PF		500V	
C0692	1-124-126-00	ELECT	47uF	20%	10V	
C0693	1-126-101-11	ELECT	100uF	20%	16V	
C0694	1-124-902-00	ELECT	0.47uF	20%	50V	

< CONNECTOR >

CN501	*	1-568-824-11	SOCKET, CONNECTOR 5P
CN502	*	1-568-824-11	SOCKET, CONNECTOR 5P
CN503	*	1-568-826-11	SOCKET, CONNECTOR 7P
CN504	*	1-568-826-11	SOCKET, CONNECTOR 7P
CN505	*	1-564-337-00	PIN, CONNECTOR 3P (WR775)
CN505	*	1-568-824-11	SOCKET, CONNECTOR 5P (WR87ES)
CN506	*	1-568-848-11	SOCKET, CONNECTOR 5P (WR87ES)
CN601	*	1-564-509-11	PLUG, CONNECTOR 6P
CN691	*	1-568-826-11	SOCKET, CONNECTOR 7P
CN701	*	1-564-338-00	PIN, CONNECTOR 4P (WR87ES)
CN701	*	1-564-339-00	PIN, CONNECTOR 5P (WR775)
CN703	*	1-564-510-11	PLUG, CONNECTOR 7P
CN801	*	1-568-830-11	SOCKET, CONNECTOR 11P
CN802	*	1-568-828-11	SOCKET, CONNECTOR 9P
CN803	*	1-568-828-11	SOCKET, CONNECTOR 9P
CN804	*	1-568-828-11	SOCKET, CONNECTOR 9P
CN805	*	1-568-828-11	SOCKET, CONNECTOR 9P
CN806	*	1-568-834-11	SOCKET, CONNECTOR 15P
CN0691	*	1-568-826-11	SOCKET, CONNECTOR 7P
GNP506	*	1-564-505-11	PLUG, CONNECTOR 2P (WR87ES)
CNP691	*	1-565-347-11	SOCKET, CONNECTOR (PC BOARD) 8P
CNP0691	*	1-565-347-11	SOCKET, CONNECTOR (PC BOARD) 8P

< DIODE >

D131	8-719-912-20	DIODE 1SS120
D231	8-719-912-20	DIODE 1SS120
D501	8-719-912-20	DIODE 1SS120
D502	8-719-912-20	DIODE 1SS120
D503	8-719-933-54	DIODE HZS9A2L
D571	8-719-912-20	DIODE 1SS120
D572	8-719-001-36	DIODE UZL-11L2
D601	8-719-912-20	DIODE 1SS120
D602	8-719-912-20	DIODE 1SS120
D701	8-719-000-78	DIODE HZS7A1L

SYSTEM CONTROL

INCLUDING HX PRO(A), HX PRO(B), TRANSLATION(A), TRANSLATION(B), MPX, POWER SW

Ref. No.	Part No.	Description	Remark
D702	8-719-912-20	DIODE 1SS120	
D703	8-719-200-77	DIODE 10E2N	
D704	8-719-200-77	DIODE 10E2N	
D705	8-719-200-77	DIODE 10E2N	
D706	8-719-912-20	DIODE 1SS120	
D707	8-719-200-77	DIODE 10E2N	
D708	8-719-200-77	DIODE 10E2N	
D709	8-719-933-33	DIODE HZS7A1L	
D710	8-719-200-77	DIODE 10E2N	
D711	8-719-200-77	DIODE 10E2N	
D712	8-719-933-33	DIODE HZS7A1L	
D713	8-719-000-93	DIODE UZL-7H1	
D801	8-719-912-20	DIODE 1SS120	
D811	8-719-912-20	DIODE 1SS120	
D812	8-719-912-20	DIODE 1SS120	
		< IC >	
IC501	8-752-035-94	IC CXA1331S	
IC503	8-759-945-58	IC RC4558P	
IC504	8-759-945-58	IC RC4558P	
IC506	8-759-140-53	IC uPD4053BC	
IC509	8-752-038-02	IC CXA1198AP	
IC510	8-759-208-06	IC TC4051BPHB	
IC511	8-752-038-02	IC CXA1198AP	
IC601	8-759-634-50	IC M5218AL (WR87ES)	
IC601	8-759-634-51	IC M5218AP (WR775)	
IC691	8-759-106-56	IC uPC1297CA	
IC701	8-759-945-58	IC RC4558P	
IC802	8-759-635-94	IC M50925SP-482SP	
IC803	8-759-634-84	IC M50255P	
IC804	8-759-240-50	IC TC4050BP	
IC805	8-759-207-05	IC TA7272P	
IC806	8-759-000-48	IC MC14052BCP	
IC807	8-759-000-48	IC MC14052BCP	
IC0691	8-759-106-56	IC uPC1297CA	
		< JACK >	
J301	1-565-258-11	JACK, PIN 4P (LINE IN/OUT) (WR775)	
J301	1-568-069-11	JACK, PIN 4P (INLE IN/OUT) (WR87ES)	
		< COIL >	
L391	1-410-780-11	INDUCTOR 27mH	
L491	1-410-780-11	INDUCTOR 27mH	
L0391	1-410-780-11	INDUCTOR 27mH	
L0491	1-410-780-11	INDUCTOR 27mH	

Ref. No.	Part No.	Description	Remark
		< FILTER >	
LPF101	1-231-388-00	FILTER, LOW PASS (WR775)	
LPF101	1-236-147-11	FILTER, LOW PASS (WR87ES)	
LPF201	1-231-388-00	FILTER, LOW PASS (WR775)	
LPF201	1-236-147-11	FILTER, LOW PASS (WR87ES)	
		< TRANSISTOR >	
Q101	8-729-900-74	TRANSISTOR DTC143TS	
Q102	8-729-900-74	TRANSISTOR DTC143TS	
Q121	8-729-821-31	TRANSISTOR 2SD1012-FG	
Q171	8-729-821-31	TRANSISTOR 2SD1012-FG	
Q201	8-729-900-74	TRANSISTOR DTC143TS	
Q202	8-729-900-74	TRANSISTOR DTC143TS	
Q221	8-729-821-31	TRANSISTOR 2SD1012-FG	
Q271	8-729-821-31	TRANSISTOR 2SD1012-FG	
Q501	8-729-900-65	TRANSISTOR DTA144ES	
Q502	8-729-900-65	TRANSISTOR DTA144ES	
Q503	8-729-900-65	TRANSISTOR DTA144ES	
Q504	8-729-900-65	TRANSISTOR DTA144ES	
Q505	8-729-900-89	TRANSISTOR DTC144ES	
Q521	8-729-900-61	TRANSISTOR DTA114ES	
Q551	8-729-900-61	TRANSISTOR DTA114ES	
Q552	8-729-821-31	TRANSISTOR 2SD1012-FG	
Q553	8-729-821-31	TRANSISTOR 2SD1012-FG	
Q571	8-729-900-65	TRANSISTOR DTA144ES	
Q572	8-729-821-04	TRANSISTOR 2SA1317-STU	
Q601	8-729-900-89	TRANSISTOR DTC144ES	
Q701	8-729-111-55	TRANSISTOR 2SD1312-K	
Q702	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q703	8-729-821-04	TRANSISTOR 2SA1317-STU	
Q704	8-729-924-90	TRANSISTOR 2SB1370-EF	
Q705	8-729-924-90	TRANSISTOR 2SB1370-EF	
Q706	8-729-900-85	TRANSISTOR DTC144WS	
Q707	8-729-111-55	TRANSISTOR 2SD1312-K	
Q708	8-729-900-89	TRANSISTOR DTC144ES	
Q801	8-729-801-84	TRANSISTOR 2SB1013-3	
Q802	8-729-801-84	TRANSISTOR 2SB1013-3	
Q803	8-729-900-61	TRANSISTOR DTA114ES	
Q804	8-729-900-80	TRANSISTOR DTC114ES	
Q805	8-729-900-61	TRANSISTOR DTA114ES	
Q806	8-729-900-61	TRANSISTOR DTA114ES	
Q807	8-729-821-04	TRANSISTOR 2SA1317-STU	
Q851	8-729-900-61	TRANSISTOR DTA114ES	
Q852	8-729-900-89	TRANSISTOR DTC144ES	
Q853	8-729-900-61	TRANSISTOR DTA114ES	
Q854	8-729-900-89	TRANSISTOR DTC144ES	
Q891	8-729-900-61	TRANSISTOR DTA114ES	

SYSTEM CONTROL

INCLUDING HX PRO(A), HX PRO(B), TRANSLATION(A), TRANSLATION(B), MPX, POWER SW

Ref. No.	Part No.	Description				Remark
		< RESISTOR >				
R101	1-249-423-11	CARBON	3.3K	5%	1/4W	
R102	1-247-887-00	CARBON	220K	5%	1/4W	
R103	1-249-441-11	CARBON	100K	5%	1/4W	
R104	1-249-423-11	CARBON	3.3K	5%	1/4W	
R105	1-249-428-11	CARBON	8.2K	5%	1/4W	
R106	1-247-864-11	CARBON	24K	5%	1/4W	
R107	1-249-414-11	CARBON	560	5%	1/4W	
R119	1-249-421-11	CARBON	2.2K	5%	1/4W	
R121	1-249-425-11	CARBON	4.7K	5%	1/4W	
R124	1-249-426-11	CARBON	5.6K	5%	1/4W	
R125	1-249-421-11	CARBON	2.2K	5%	1/4W	
R126	1-249-429-11	CARBON	10K	5%	1/4W	
R131	1-249-408-11	CARBON	180	5%	1/4W	
R132	1-247-870-11	CARBON	43K	5%	1/4W	
R133	1-249-421-11	CARBON	2.2K	5%	1/4W	
R134	1-249-435-11	CARBON	33K	5%	1/4W	
R151	1-249-425-11	CARBON	4.7K	5%	1/4W	
R153	1-249-421-11	CARBON	2.2K	5%	1/4W	
R155	1-249-426-11	CARBON	5.6K	5%	1/4W	
R156	1-249-429-11	CARBON	10K	5%	1/4W	
R171	1-249-433-11	CARBON	22K	5%	1/4W	
R172	1-249-417-11	CARBON	1K	5%	1/4W	
R173	1-249-430-11	CARBON	12K	5%	1/4W	(WR775)
R173	1-249-431-11	CARBON	15K	5%	1/4W	(WR87ES)
R174	1-249-421-11	CARBON	2.2K	5%	1/4W	
R181	1-249-429-11	CARBON	10K	5%	1/4W	(WR775)
R181	1-249-433-11	CARBON	22K	5%	1/4W	(WR87ES)
R182	1-249-421-11	CARBON	2.2K	5%	1/4W	(WR87ES)
R183	1-249-433-11	CARBON	22K	5%	1/4W	(WR87ES)
R184	1-249-405-11	CARBON	100	5%	1/4W	(WR775)
R184	1-249-409-11	CARBON	220	5%	1/4W	(WR87ES)
R191	1-249-420-11	CARBON	1.8K	5%	1/4W	
R201	1-249-423-11	CARBON	3.3K	5%	1/4W	
R202	1-247-887-00	CARBON	220K	5%	1/4W	
R203	1-249-441-11	CARBON	100K	5%	1/4W	
R204	1-249-423-11	CARBON	3.3K	5%	1/4W	
R205	1-249-428-11	CARBON	8.2K	5%	1/4W	
R206	1-247-864-11	CARBON	24K	5%	1/4W	
R207	1-249-414-11	CARBON	560	5%	1/4W	
R219	1-249-421-11	CARBON	2.2K	5%	1/4W	
R221	1-249-425-11	CARBON	4.7K	5%	1/4W	
R224	1-249-426-11	CARBON	5.6K	5%	1/4W	
R225	1-249-421-11	CARBON	2.2K	5%	1/4W	
R226	1-249-429-11	CARBON	10K	5%	1/4W	

Ref. No.	Part No.	Description				Remark
R231	1-249-408-11	CARBON	180	5%	1/4W	
R232	1-247-870-11	CARBON	43K	5%	1/4W	
R233	1-249-421-11	CARBON	2.2K	5%	1/4W	
R234	1-249-435-11	CARBON	33K	5%	1/4W	
R251	1-249-425-11	CARBON	4.7K	5%	1/4W	
R253	1-249-421-11	CARBON	2.2K	5%	1/4W	
R255	1-249-426-11	CARBON	5.6K	5%	1/4W	
R256	1-249-429-11	CARBON	10K	5%	1/4W	
R271	1-249-433-11	CARBON	22K	5%	1/4W	
R272	1-249-417-11	CARBON	1K	5%	1/4W	
R273	1-249-430-11	CARBON	12K	5%	1/4W	(WR775)
R273	1-249-431-11	CARBON	15K	5%	1/4W	(WR87ES)
R274	1-249-421-11	CARBON	2.2K	5%	1/4W	
R281	1-249-429-11	CARBON	10K	5%	1/4W	(WR775)
R281	1-249-433-11	CARBON	22K	5%	1/4W	(WR87ES)
R282	1-249-421-11	CARBON	2.2K	5%	1/4W	(WR87ES)
R283	1-249-433-11	CARBON	22K	5%	1/4W	(WR87ES)
R284	1-249-405-11	CARBON	100	5%	1/4W	(WR775)
R284	1-249-409-11	CARBON	220	5%	1/4W	(WR87ES)
R291	1-249-420-11	CARBON	1.8K	5%	1/4W	
R391	1-249-428-11	CARBON	8.2K	5%	1/4W	(WR87ES)
R391	1-249-430-11	CARBON	12K	5%	1/4W	(WR775)
R392	1-247-883-00	CARBON	150K	5%	1/4W	(WR775)
R392	1-247-884-11	CARBON	160K	5%	1/4W	(WR87ES)
R393	⚠ 1-212-857-00	FUSIBLE	10	5%	1/4W	F
R394	1-249-431-11	CARBON	15K	5%	1/4W	(WR775)
R394	1-249-432-11	CARBON	18K	5%	1/4W	(WR87ES)
R395	1-247-854-11	CARBON	9.1K	5%	1/4W	(WR87ES)
R395	1-247-862-11	CARBON	20K	5%	1/4W	(WR775)
R491	1-249-428-11	CARBON	8.2K	5%	1/4W	(WR87ES)
R491	1-249-430-11	CARBON	12K	5%	1/4W	(WR775)
R492	1-247-883-00	CARBON	150K	5%	1/4W	(WR775)
R492	1-247-884-11	CARBON	160K	5%	1/4W	(WR87ES)
R493	⚠ 1-212-857-00	FUSIBLE	10	5%	1/4W	F
R494	1-249-431-11	CARBON	15K	5%	1/4W	(WR775)
R494	1-249-432-11	CARBON	18K	5%	1/4W	(WR87ES)
R495	1-247-854-11	CARBON	9.1K	5%	1/4W	(WR87ES)
R495	1-247-862-11	CARBON	20K	5%	1/4W	(WR775)

Note:
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Note:
Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

SYSTEM CONTROL

INCLUDING HX PRO(A), HX PRO(B), TRANSLATION(A), TRANSLATION(B), MPX, POWER SW

Ref. No.	Part No.	Description				Remark
R501	1-249-429-11	CARBON	10K		5%	1/4W
R502	1-249-434-11	CARBON	27K		5%	1/4W
R503	1-249-417-11	CARBON	1K		5%	1/4W
R504	1-249-429-11	CARBON	10K		5%	1/4W
R505	1-249-429-11	CARBON	10K		5%	1/4W
R506	1-249-429-11	CARBON	10K		5%	1/4W
R507	1-249-441-11	CARBON	100K		5%	1/4W
R521	1-247-866-11	CARBON	30K	5%		1/4W (WR87ES)
R521	1-249-440-11	CARBON	82K	5%		1/4W (WR775)
R522	1-247-866-11	CARBON	30K	5%		1/4W (WR87ES)
R522	1-247-870-11	CARBON	43K	5%		1/4W (WR775)
R523	1-247-884-11	CARBON	160K	5%		1/4W (WR775)
R523	1-247-890-11	CARBON	300K	5%		1/4W (WR87ES)
R524	1-247-880-11	CARBON	110K	5%		1/4W (WR775)
R524	1-247-889-00	CARBON	270K	5%		1/4W (WR87ES)
R525	1-249-435-11	CARBON	33K		5%	1/4W
R526	1-247-868-11	CARBON	36K	5%		1/4W (WR775)
R526	1-249-438-11	CARBON	56K	5%		1/4W (WR87ES)
R527	1-247-883-00	CARBON	150K	5%		1/4W (WR87ES)
R527	1-247-891-00	CARBON	330K	5%		1/4W (WR775)
R528	1-247-868-11	CARBON	36K	5%		1/4W (WR775)
R528	1-249-434-11	CARBON	27K	5%		1/4W (WR87ES)
R529	1-247-885-00	CARBON	180K	5%		1/4W (WR775)
R529	1-247-889-00	CARBON	270K	5%		1/4W (WR87ES)
R530	1-247-868-11	CARBON	36K	5%		1/4W (WR87ES)
R530	1-247-892-11	CARBON	360K	5%		1/4W (WR775)
R531	1-247-870-11	CARBON	43K	5%		1/4W (WR775)
R531	1-249-437-11	CARBON	47K	5%		1/4W (WR87ES)
R532	1-247-872-11	CARBON	51K	5%		1/4W (WR775)
R532	1-249-438-11	CARBON	56K	5%		1/4W (WR87ES)
R533	1-247-883-00	CARBON	150K	5%		1/4W (WR775)
R533	1-247-887-00	CARBON	220K	5%		1/4W (WR87ES)
R534	1-249-437-11	CARBON	47K	5%		1/4W (WR87ES)
R534	1-249-438-11	CARBON	56K	5%		1/4W (WR775)
R535	1-247-878-00	CARBON	91K	5%		1/4W (WR775)
R535	1-247-882-11	CARBON	130K	5%		1/4W (WR87ES)
R536	1-247-872-11	CARBON	51K	5%		1/4W (WR87ES)
R536	1-247-878-00	CARBON	91K	5%		1/4W (WR775)
R537	1-247-872-11	CARBON	51K	5%		1/4W (WR775)
R537	1-249-437-11	CARBON	47K	5%		1/4W (WR87ES)
R538	1-247-874-11	CARBON	62K	5%		1/4W (WR775)
R538	1-249-437-11	CARBON	47K	5%		1/4W (WR87ES)
R539	1-247-864-11	CARBON	24K		5%	1/4W
R541	1-249-441-11	CARBON	100K		5%	1/4W
R542	1-249-417-11	CARBON	1K		5%	1/4W
R551	1-247-866-11	CARBON	30K	5%		1/4W (WR87ES)
R551	1-249-440-11	CARBON	82K	5%		1/4W (WR775)
R552	1-249-435-11	CARBON	33K	5%		1/4W (WR87ES)
R552	1-249-437-11	CARBON	47K	5%		1/4W (WR775)
R553	1-247-885-00	CARBON	180K	5%		1/4W (WR775)
R553	1-247-890-11	CARBON	300K	5%		1/4W (WR87ES)
R554	1-247-888-11	CARBON	240K	5%		1/4W (WR87ES)
R554	1-249-440-11	CARBON	82K	5%		1/4W (WR775)
R555	1-249-435-11	CARBON	33K		5%	1/4W
R556	1-247-872-11	CARBON	51K	5%		1/4W (WR87ES)
R556	1-249-435-11	CARBON	33K	5%		1/4W (WR775)
R557	1-247-883-00	CARBON	150K	5%		1/4W (WR87ES)
R557	1-247-887-00	CARBON	220K	5%		1/4W (WR775)
R558	1-249-434-11	CARBON	27K	5%		1/4W (WR87ES)
R558	1-249-436-11	CARBON	39K	5%		1/4W (WR775)
R559	1-247-886-11	CARBON	200K	5%		1/4W (WR775)
R559	1-247-890-11	CARBON	300K	5%		1/4W (WR87ES)
R560	1-247-891-00	CARBON	330K	5%		1/4W (WR87ES)
R560	1-247-892-11	CARBON	360K	5%		1/4W (WR775)
R561	1-247-870-11	CARBON	43K	5%		1/4W (WR775)
R561	1-249-437-11	CARBON	47K	5%		1/4W (WR87ES)
R562	1-247-872-11	CARBON	51K	5%		1/4W (WR87ES)
R562	1-249-438-11	CARBON	56K	5%		1/4W (WR775)
R563	1-247-883-00	CARBON	150K	5%		1/4W (WR775)
R563	1-249-441-11	CARBON	100K	5%		1/4W (WR87ES)
R564	1-249-437-11	CARBON	47K	5%		1/4W (WR87ES)
R564	1-249-438-11	CARBON	56K	5%		1/4W (WR775)
R565	1-247-882-11	CARBON	130K	5%		1/4W (WR87ES)
R565	1-249-441-11	CARBON	100K	5%		1/4W (WR775)
R566	1-247-872-11	CARBON	51K	5%		1/4W (WR87ES)
R566	1-249-440-11	CARBON	82K	5%		1/4W (WR775)
R567	1-247-872-11	CARBON	51K	5%		1/4W (WR775)
R567	1-249-437-11	CARBON	47K	5%		1/4W (WR87ES)

SYSTEM CONTROL

INCLUDING HX PRO(A), HX PRO(B), TRANSLATION(A), TRANSLATION(B), MPX, POWER SW

Ref. No.	Part No.	Description				Remark
R568	1-247-874-11	CARBON	62K	5%	1/4W	(WR775)
R568	1-249-437-11	CARBON	47K	5%	1/4W	(WR87ES)
R569	1-247-880-11	CARBON	110K	5%	1/4W	
R570	1-247-868-11	CARBON	36K	5%	1/4W	(WR775)
R570	1-249-435-11	CARBON	33K	5%	1/4W	(WR87ES)
R571	1-247-874-11	CARBON	62K	5%	1/4W	(WR775)
R571	1-249-439-11	CARBON	68K	5%	1/4W	(WR87ES)
R572	1-247-864-11	CARBON	24K	5%	1/4W	(WR87ES)
R572	1-247-866-11	CARBON	30K	5%	1/4W	(WR775)
R573	1-247-868-11	CARBON	36K	5%	1/4W	
R574	1-247-860-11	CARBON	16K	5%	1/4W	(WR87ES)
R574	1-249-432-11	CARBON	18K	5%	1/4W	(WR775)
R575	1-247-880-11	CARBON	110K	5%	1/4W	(WR775)
R575	1-247-881-00	CARBON	120K	5%	1/4W	(WR87ES)
R576	1-247-868-11	CARBON	36K	5%	1/4W	(WR775)
R576	1-249-435-11	CARBON	33K	5%	1/4W	(WR87ES)
R577	1-249-438-11	CARBON	56K	5%	1/4W	(WR775)
R577	1-249-439-11	CARBON	68K	5%	1/4W	(WR87ES)
R578	1-247-874-11	CARBON	62K	5%	1/4W	(WR775)
R578	1-249-433-11	CARBON	22K	5%	1/4W	(WR87ES)
R579	1-247-872-11	CARBON	51K	5%	1/4W	(WR87ES)
R579	1-249-437-11	CARBON	47K	5%	1/4W	(WR775)
R580	1-247-866-11	CARBON	30K	5%	1/4W	(WR87ES)
R580	1-249-436-11	CARBON	39K	5%	1/4W	(WR775)
R581	1-247-880-11	CARBON	110K	5%	1/4W	(WR87ES)
R581	1-247-881-00	CARBON	120K	5%	1/4W	(WR775)
R582	1-247-866-11	CARBON	30K	5%	1/4W	(WR87ES)
R582	1-247-872-11	CARBON	51K	5%	1/4W	(WR775)
R583	1-247-870-11	CARBON	43K	5%	1/4W	(WR775)
R583	1-249-439-11	CARBON	68K	5%	1/4W	(WR87ES)
R584	1-249-431-11	CARBON	15K	5%	1/4W	(WR87ES)
R584	1-249-433-11	CARBON	22K	5%	1/4W	(WR775)
R585	1-247-872-11	CARBON	51K	5%	1/4W	(WR87ES)
R585	1-249-438-11	CARBON	56K	5%	1/4W	(WR775)
R586	1-247-868-11	CARBON	36K	5%	1/4W	(WR775)
R586	1-249-434-11	CARBON	27K	5%	1/4W	(WR87ES)

Ref. No.	Part No.	Description				Remark
R587	1-247-864-11	CARBON	24K	5%	1/4W	
R591	1-249-409-11	CARBON	220	5%	1/4W	
R594	1-249-441-11	CARBON	100K	5%	1/4W	
R595	1-249-442-11	CARBON	510	5%	1/4W	
R598	1-249-441-11	CARBON	100K	5%	1/4W	
R599	1-249-417-11	CARBON	1K	5%	1/4W	
R602	1-247-887-00	CARBON	220K	5%	1/4W	
R603	1-249-425-11	CARBON	4.7K	5%	1/4W	
R604	1-249-441-11	CARBON	100K	5%	1/4W	
R605	1-249-428-11	CARBON	8.2K	5%	1/4W	
R606	1-249-441-11	CARBON	100K	5%	1/4W	
R607	1-249-417-11	CARBON	1K	5%	1/4W	
R608	1-249-441-11	CARBON	100K	5%	1/4W	
R609	1-249-423-11	CARBON	3.3K	5%	1/4W	
R701	1-249-421-11	CARBON	2.2K	5%	1/4W	
R702	1-249-421-11	CARBON	2.2K	5%	1/4W	
R703	1-247-856-00	CARBON	11K	5%	1/4W	
R704	1-249-428-11	CARBON	8.2K	5%	1/4W	
R705	1-249-425-11	CARBON	4.7K	5%	1/4W	
R706	1-249-429-11	CARBON	10K	5%	1/4W	
R707	1-249-409-11	CARBON	220	5%	1/4W	
R708	1-249-420-11	CARBON	1.8K	5%	1/4W	
R709	1-249-426-11	CARBON	5.6K	5%	1/4W	
R710	1-249-422-11	CARBON	2.7K	5%	1/4W	
R711	1-249-430-11	CARBON	12K	5%	1/4W	
R712	1-249-429-11	CARBON	10K	5%	1/4W	
R713	1-249-409-11	CARBON	220	5%	1/4W	
R714	1-249-429-11	CARBON	10K	5%	1/4W	
R715	1-249-429-11	CARBON	10K	5%	1/4W	
R721	1-249-437-11	CARBON	47K	5%	1/4W	
R801	1-249-434-11	CARBON	27K	5%	1/4W	
R802	1-249-434-11	CARBON	27K	5%	1/4W	(WR87ES)
R803	1-249-434-11	CARBON	27K	5%	1/4W	(WR87ES)
R804	1-249-434-11	CARBON	27K	5%	1/4W	
R805	1-247-895-00	CARBON	470K	5%	1/4W	
R806	1-247-895-00	CARBON	470K	5%	1/4W	
R807	1-247-895-00	CARBON	470K	5%	1/4W	
R808	1-247-895-00	CARBON	470K	5%	1/4W	
R809	1-249-425-11	CARBON	4.7K	5%	1/4W	
R810	1-247-862-11	CARBON	20K	5%	1/4W	
R811	1-249-425-11	CARBON	4.7K	5%	1/4W	
R812	1-247-862-11	CARBON	20K	5%	1/4W	
R813	1-249-437-11	CARBON	47K	5%	1/4W	
R814	1-247-866-11	CARBON	30K	5%	1/4W	
R815	1-249-434-11	CARBON	27K	5%	1/4W	
R816	1-247-872-11	CARBON	51K	5%	1/4W	
R818	1-247-872-11	CARBON	51K	5%	1/4W	
R819	1-249-405-11	CARBON	100	5%	1/4W	
R820	1-249-437-11	CARBON	47K	5%	1/4W	

SYSTEM CONTROL

INCLUDING HX PRO(A), HX PRO(B), TRANSLATION(A), TRANSLATION(B), MPX, POWER SW

Ref. No.	Part No.	Description				Remark
R821	1-247-866-11	CARBON	30K		5%	1/4W
R822	1-249-434-11	CARBON	27K		5%	1/4W
R823	1-247-872-11	CARBON	51K		5%	1/4W
R825	1-249-405-11	CARBON	100		5%	1/4W
R826	1-247-872-11	CARBON	51K		5%	1/4W
R827	1-249-441-11	CARBON	100K		5%	1/4W
R828	1-249-429-11	CARBON	10K		5%	1/4W
R829	1-249-429-11	CARBON	10K		5%	1/4W
R830	1-249-429-11	CARBON	10K		5%	1/4W
R831	1-249-429-11	CARBON	10K		5%	1/4W
R832	1-249-417-11	CARBON	1K		5%	1/4W
R833	1-249-438-11	CARBON	56K		5%	1/4W
R858	1-247-862-11	CARBON	20K	5%		1/4W (WR775)
R858	1-249-432-11	CARBON	18K	5%		1/4W (WR87ES)
R859	1-247-866-11	CARBON	30K	5%		1/4W (WR87ES)
R859	1-249-437-11	CARBON	47K	5%		1/4W (WR775)
R860	1-247-858-11	CARBON	13K	5%		1/4W (WR775)
R860	1-249-429-11	CARBON	10K	5%		1/4W (WR87ES)
R862	1-247-862-11	CARBON	20K	5%		1/4W (WR775)
R862	1-249-428-11	CARBON	8.2K	5%		1/4W (WR87ES)
R863	1-249-437-11	CARBON	47K	5%		1/4W (WR775)
R863	1-249-446-11	CARBON	4.3K	5%		1/4W (WR87ES)
R864	1-247-858-11	CARBON	13K	5%		1/4W (WR775)
R865	1-247-852-11	CARBON	7.5K	5%		1/4W (WR87ES)
R868	1-249-429-11	CARBON	10K		5%	1/4W
R869	1-249-429-11	CARBON	10K		5%	1/4W
R870	1-249-429-11	CARBON	10K		5%	1/4W
R874	1-247-903-00	CARBON	1M		5%	1/4W
R891	1-249-429-11	CARBON	10K		5%	1/4W
R892	1-249-429-11	CARBON	10K		5%	1/4W
R893	1-249-415-11	CARBON	680		5%	1/4W
R894	1-249-415-11	CARBON	680		5%	1/4W
R0391	1-249-428-11	CARBON	8.2K	5%		1/4W (WR87ES)
R0391	1-249-430-11	CARBON	12K	5%		1/4W (WR775)
R0392	1-247-883-00	CARBON	150K	5%		1/4W (WR775)
R0392	1-247-884-11	CARBON	160K	5%		1/4W (WR87ES)
R0393 ⚠	1-212-857-00	FUSIBLE	10		5%	1/4W F
R0394	1-249-431-11	CARBON	15K	5%		1/4W (WR775)
R0394	1-249-432-11	CARBON	18K	5%		1/4W (WR87ES)
R0395	1-247-854-11	CARBON	9.1K	5%		1/4W (WR87ES)
R0395	1-247-862-11	CARBON	20K	5%		1/4W (WR775)
R0491	1-249-428-11	CARBON	8.2K	5%		1/4W (WR87ES)
R0491	1-249-430-11	CARBON	12K	5%		1/4W (WR775)
R0492	1-247-883-00	CARBON	150K	5%		1/4W (WR775)
R0492	1-247-884-11	CARBON	160K	5%		1/4W (WR87ES)
R0493 ⚠	1-212-857-00	FUSIBLE	10		5%	1/4W F
R0494	1-249-431-11	CARBON	15K	5%		1/4W (WR775)
R0494	1-249-432-11	CARBON	18K	5%		1/4W (WR87ES)
R0495	1-247-854-11	CARBON	9.1K	5%		1/4W (WR87ES)
R0495	1-247-862-11	CARBON	20K	5%		1/4W (WR775)

< VARIABLE RESISTOR >

RV121	1-238-600-11	RES, ADJ, CARBON 10K
RV122	1-238-600-11	RES, ADJ, CARBON 10K
RV221	1-238-600-11	RES, ADJ, CARBON 10K
RV222	1-238-600-11	RES, ADJ, CARBON 10K
RV391	1-238-548-11	RES, ADJ, CARBON 22K
RV491	1-238-548-11	RES, ADJ, CARBON 22K
RV501	1-238-953-11	RES, VAR, CARBON 50K/50K (BALANCE) (WR87ES)
RV502	1-241-133-11	RES, VAR, CARBON 50K/50K (REC LEVEL) (WR87ES)
RV503	1-238-085-11	RES, VAR, CARBON 20K/20K (PHONE LEVEL) (WR87ES)
RV0391	1-238-548-11	RES, ADJ, CARBON 22K
RV0491	1-238-548-11	RES, ADJ, CARBON 22K

< SWITCH >

S501	1-571-083-11	SWITCH, SLIDE (POWER) (WR87ES)
S701 ⚠	1-554-118-00	SWITCH, PUSH (1 KEY) (POWER)

< TRANSFORMER >

T391	1-433-335-11	TRANSFORMER, BIAS OSSCILATION (WR87ES)
T391	1-433-367-11	TRANSFORMER, BIAS OSSCILATION (WR775)
T491	1-433-335-11	TRANSFORMER, BIAS OSSCILATION (WR87ES)
T491	1-433-367-11	TRANSFORMER, BIAS OSSCILATION (WR775)
T0391	1-433-335-11	TRANSFORMER, BIAS OSSCILATION (WR87ES)
T0391	1-433-367-11	TRANSFORMER, BIAS OSSCILATION (WR775)
T0491	1-433-335-11	TRANSFORMER, BIAS OSSCILATION (WR87ES)
T0491	1-433-367-11	TRANSFORMER, BIAS OSSCILATION (WR775)

< TEST PIN >

TP1 *	1-564-505-11	PLUG, CONNECTOR 2P
TP2 *	1-564-506-11	PLUG, CONNECTOR 3P
TP691 *	1-564-520-11	PLUG, CONNECTOR 5P
TP0691 *	1-564-520-11	PLUG, CONNECTOR 5P

Note:
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Note:
Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

SYSTEM CONTROL

INCLUDING HX PRO(A), HX PRO(B), TRANSLATION(A), TRANSLATION(B), MPX, POWER SW

Ref. No.	Part No.	Description	Remark
		< CERAMIC >	
X801	1-577-358-21	VIBRATOR, CERAMIC (4MHz)	
**********			
		MISCELLANEOUS	
		**********	
11	⚠ 1-551-506-XX	CORD, POWER (WR775)	
11	⚠ 1-555-465-00	CORD, POWER (WR87ES)	
76	* 1-575-847-11	WIRE, FLAT TYPE (5 CORE)	
77	* 1-575-851-11	WIRE, FLAT TYPE (7 CORE)	
78	* 1-575-848-11	WIRE, FLAT TYPE (5 CORE)	
79	* 1-575-853-11	WIRE, FLAT TYPE (15 CORE)	
80	1-534-517-00	WIRE, FLAT TYPE (11 CORE)	
81	* 1-575-780-11	WIRE, FLAT TYPE (7 CORE)	
82	* 1-575-850-11	WIRE, FLAT TYPE (9 CORE)	
83	* 1-575-781-11	WIRE, FLAT TYPE (9 CORE)	
136	* 1-575-847-11	WIRE, FLAT TYPE (5 CORE)	
137	* 1-575-851-11	WIRE, FLAT TYPE (7 CORE)	
138	* 1-575-848-11	WIRE, FLAT TYPE (5 CORE)	
139	* 1-575-853-11	WIRE, FLAT TYPE (15 CORE)	
140	1-534-517-00	WIRE, FLAT TYPE (11 CORE)	
141	* 1-575-780-11	WIRE, FLAT TYPE (7 CORE)	
142	* 1-575-850-11	WIRE, FLAT TYPE (9 CORE)	
143	* 1-575-781-11	WIRE, FLAT TYPE (9 CORE)	
F701	⚠ 1-532-742-11	FUSE, GLASS TUBE (1.6A/125V)	
F702	⚠ 1-532-742-11	FUSE, GLASS TUBE (1.6A/125V)	
HRPE101	A-2003-420-A	BASE ASSY, HEAD (REC/PB/ERASE) (WR87ES)	
HRPE101	A-2003-477-A	BASE ASSY, HEAD (REC/PB/ERASE) (WR775)	
M1	X-3359-417-1	MOTOR ASSY (CAPSTAN)	
M2	A-2003-474-A	MOTOR ASSY (REEL)	
S87	1-572-393-11	SWITCH, LEAF (DIRECTION)	
T701	⚠ 1-450-431-11	TRANSFORMER, POWER	
**********			
		ACCESSORY & PACKING MATERIAL	
		**********	
	1-559-533-11	CORD, CONNECTION	
*	3-354-918-61	INDIVIDUAL CARTON	
*	3-354-918-71	INDIVIDUAL CARTON (WR87ES)	
*	3-359-942-01	CUSHION	
	3-703-450-01	INSTRUCTION (WR87ES/WR775:US)	
*	3-704-343-01	SHEET (STANDARD), PROTECTION	
	3-753-337-21	MANUAL, INSTRUCTION (ENGLISH) (WR87ES)	
	3-753-338-21	MANUAL, INSTRUCTION (ENGLISH)	
	3-753-388-31	MANUAL, INSTRUCTION (WR775:Canadian, FRENCH)	

HARDWARE LIST

Ref. No.	Part No.	Description	Remark
# 1	7-682-548-09	SCREW +BVTT 3X8 (S)	
# 2	7-621-849-00	SCREW (BV/RING)	
# 3	7-685-646-79	SCREW +BVTP 3X8 TYPE2 SLIT	
# 4	7-682-547-04	SCREW +BVTT 3X6 (S)	
# 5	7-682-547-09	SCREW +BVTT 3X6 (S)	
# 6	7-621-775-10	SCREW +B 2.6X4 (WR87ES)	
# 7	7-621-773-95	SCREW +BVTT 2.6X6 (S)	
# 8	7-685-534-19	SCREW +BTP 2.6X8 TYPE2 N-S (WR87ES)	
# 9	7-621-770-67	SCREW +BVTT 2.6X6 (S) (WR87ES)	
#10	7-627-556-08	SCREW +P 2.6X2.8	
#11	7-621-775-00	SCREW +B 2.6X3	
#12	7-621-773-93	SCREW (PANEL 2.6 TP2) (WR775)	

Note:
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Note:
Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

9-956-430-11

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TC-WR87ES/WR775

SONY
SERVICE MANUAL

US Model
Canadian Model
TC-WR775

US Model
TC-WR87ES

CORRECTION-1

File this correction with the service manual.

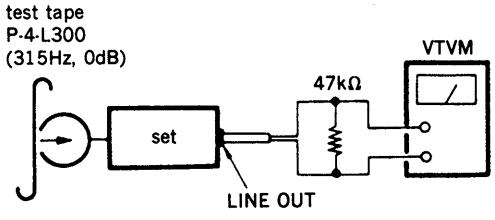
☛ :Correct Portion

1. SECTION 4 ELECTRICAL ADJUSTMENTS
(Service Manual Page 9.)

Playback Level Adjustment DECK A DECK B

Procedure :

—Forward Playback Mode—



Adjust each RV11 (L-CH) and RV21 (R-CH) so that the VTVM reading becomes within adjustment limits below on both of deck A and deck B.

Adjustment Limits :

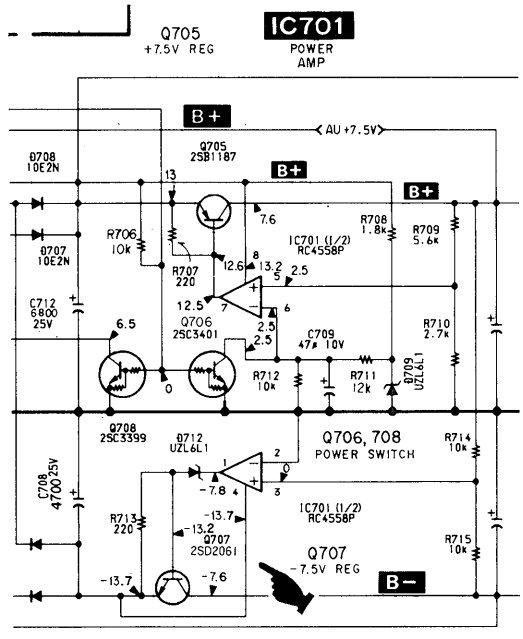
LINE OUT level : −5±0.5dB(0.412 to 0.461V)

Level difference between channels : within 0.5dB

Confirm the LINE OUT level does not change in playback mode while changing the mode from playback to stop several times.

Adjustment Location : MD(C) board (deck A, deck B)
(See page 10)

2. SECTION 5 DIAGRAMS
Service Manual Page 20.
(Location G~J−8~10)



3. SECTION 7 ELECTRICAL PARTS LIST
(Service Manual Page 40.)

Ref. No.	Part No.	Description	Remark
Q701	8-729-906-97	TRANSISTOR 2SD2061-F	☛
Q702	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q703	8-729-821-04	TRANSISTOR 2SA1317-STU	
Q704	8-729-924-90	TRANSISTOR 2SB1370-EF	
Q705	8-729-924-90	TRANSISTOR 2SB1370-EF	
Q706	8-729-900-85	TRANSISTOR DTC144WS	
Q707	8-729-906-97	TRANSISTOR 2SD2061-F	☛

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